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Number 22

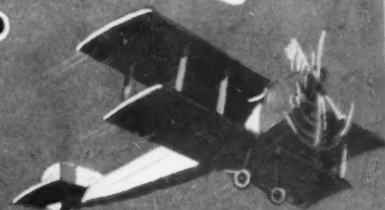
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PHILADELPHIA, JUNE 2, 1927

Thirty-five Cents a Copy
Three Dollars a Year

MOTOR AGE

With the
Super-Six Principle

riding is like flying



Only two Super-Sixes
HUDSON-ESSEX



PERFECT CIRCLE PISTON RINGS

won *every* major automobile race in the United States in 1922, 1923, 1924, 1925 and 1926. And in 1927 PERFECT CIRCLES continue as the universal choice of leading race drivers.

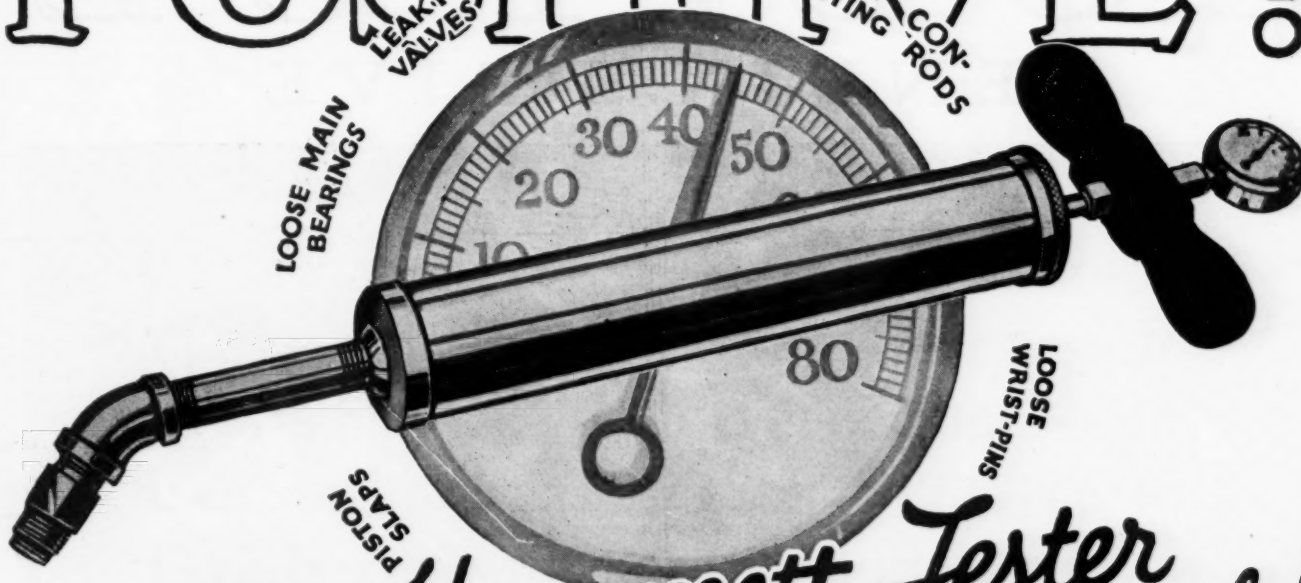
THE PERFECT CIRCLE COMPANY, HAGERSTOWN, INDIANA

Race drivers almost universally use both PERFECT CIRCLE Compression rings and PERFECT CIRCLE Oil-Regulating rings. This is the ideal piston ring combination for any automobile motor.



STANDARD EQUIPMENT IN AMERICA'S FINEST CARS -- WINNER IN EVERY MAJOR RACE FOR FIVE YEARS

POSITIVE!



*The Hammett Tester
tells you the whole truth!*

In 15 Minutes--

The Hammett Motor Tester efficiently makes this complete test:

Tests compression
locates piston pin, connecting rod and main bearing knocks . . . locates leaky valves and rings, one cylinder at a time.

By the Hammett method, each part needing repair is instantly located without loss of time in taking down the motor or by guess work.

The Hammett is guaranteed to do the work. Order through your jobber.

Dealer Price

\$13.50

A-16

THERE is one positive way that you can quickly tell each customer what his motor troubles are—how long it will take you to do the job—and what the total repair charge will be—all without running or taking down the motor. By using the *Hammett Motor Tester*.

Today, more than 5,000 progressive Service Shops are depending upon this practical testing device to speed up their repair work and double their profits. The *Hammett Motor Tester* never fails to tell you the whole truth on every job in which it is used. It is as positive as the law of gravitation—unfailing as the march of time! The *Hammett Motor Tester* is an indispensable unit of modern shop equipment and modern shop practice.

HAMMETT MOTOR TESTER

Manufactured by

HAMMETT MANUFACTURING CO.

13th and OAK STREETS

KANSAS CITY, MO.

ECLIPSE

BENDIX DRIVE



This Label Marks The Genuine

—Look for It on the Springs You Buy



Service Station Stocks

The new Eclipse Bendix Service Station Stocks have been developed to enable the repairman to give complete and dependable service on a maximum number of cars with a minimum investment. Service Station Stocks No. 1 enables the servicing of fully 75% of the cars in service today. Service Station Stock No. 2 is even more comprehensive, and enables the servicing of more than 85% of the cars. Fill out and mail coupon below for complete information.

Eclipse Machine Company
Elmira, New York.
Department 7.

We are interested in the new Eclipse Bendix Service Station Stocks. Please send complete information, and names of nearest jobbers to

Name _____

Address _____

City _____

GENUINE springs for the Eclipse Bendix Drive are exactly the same in quality, workmanship and design as the springs used in the original Eclipse Bendix Drive. Each spring is identified by the red and yellow label with the trademark "Bendix." Look for this label on the springs you use.

Only through the use of genuine springs can you insure your customers of the dependable and uninterrupted service which they deserve.

Genuine springs are packed in trade marked boxes of ten each—either of assorted types, or all of one type. You can order them from your jobber. They are also included in the Eclipse Bendix Service Station Stocks, which enable you to give complete service on the Eclipse Bendix Drives used on the great majority of the cars in service today.

ECLIPSE MACHINE COMPANY
ELMIRA, NEW YORK

Eclipse Machine Co., Hoboken, N. J. • Eclipse Machine Co., Ltd., Walkerville, Ont.

MOTOR AGE

Vol. LI

Reg. U. S. Pat. Off.
Established 1899

No. 22

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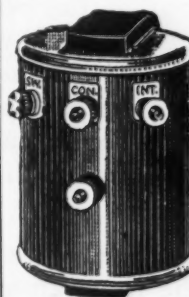


It's Astonishing—

What Primax Ignition will do for performance.

And equally astonishing is the amount of extra business you will do by selling this better ignition for every car that now has a spark coil.

If Primax is not already handled in your territory, write today for the sales plan.



THORDARSON PRIMAX IGNITION

THORDARSON ELECTRIC MANUFACTURING CO.
Transformer Specialists since 1895
WORLD'S OLDEST AND LARGEST EXCLUSIVE TRANSFORMER MAKERS
Chicago, U.S.A.

MAIL THIS COUPON NOW!

THORDARSON ELECTRIC MFG. CO.
500 W. Huron St., Chicago, Ill.

Send complete sales information and net trade prices on
Primax Ignition Transformers.

Name

Address

A-7

An Amazing Stock-Car Record!

1642.58 miles in 24 hours

68.44 miles per hour

Average speed for 24 hours

Made by a
Challenger Model
SAFETY STUTZ
Stock Sedan, Fully-Equipped

Winning the STEVENS TROPHY

Indianapolis Speedway

April 21-22

A.A.A. Auspices

By F. E. MOSKOVICS
President

STUTZ MOTOR CAR CO.
of AMERICA, Inc.
INDIANAPOLIS

RECENTLY I was asked: *What is the severest stock automobile test in the world?* And, without hesitation, I replied: *Sustaining high speed on the four-cornered, brick-surfaced Indianapolis Speedway.*

So, when the Stevens Trophy was offered for the first closed-car to do 60 miles per hour for 24 hours, we entered a Safety Stutz Sedan at once.

The Safety Stutz averaged 68.44 miles per hour!—much of the time through rain, snow, sleet, fog and high winds; throughout the run no mechanical adjustment to the power plant was necessary; not a spark-plug was touched, not a wrench was used, and only one nut was tightened on the entire car during the whole 24 hours—an achievement of which we are admittedly proud. And, mind you, this run was not made on one of the board bowls that are well known to be 8 to 10 miles per hour faster than the Indianapolis Speedway, with its flat straight-aways and low-banked turns.

Many prominent engineers attended the run. All conceded the Stutz performance to be the most amazing record of mechanical consistency in the history of the industry.

This record means something in the car you sell—it means something you can translate into profits. Write us for the story. We will gladly send it. Better yet, wire for it today.

(Signed)

F. E. Moskovic



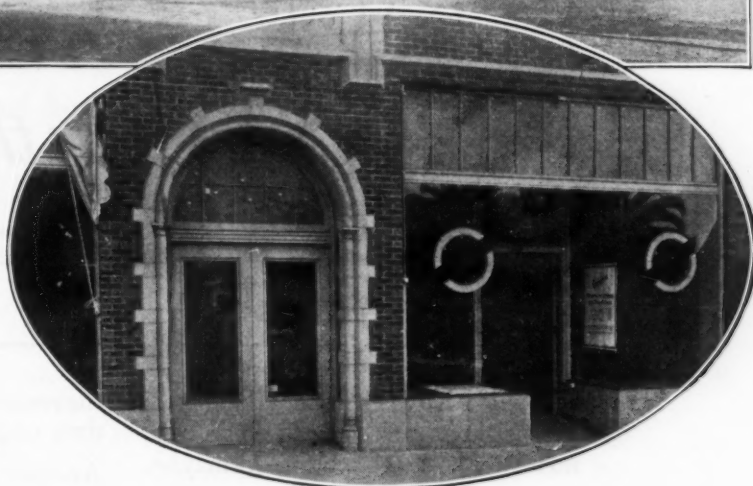
Climate alone cannot explain this Studebaker growth in California



NEARLY eight years ago Keller Brothers began to sell Studebakers in Pasadena, California, in a small salesroom, pictured in the oval. Today they occupy the large handsome, building above.

California's climate alone cannot explain this rapid and prosperous expansion—for such Studebaker dealer successes are in evidence in other parts of the United States. The secret lies in the Studebaker franchise itself—a profitable franchise for the dealer because it is backed by a popular line of cars of high quality and supreme value.

Consider, for example, what the Studebaker dealer has to offer his clientele—a quality line of fine cars beginning at \$945 for the Erskine Six, the Little Aristocrat of Motordom, with Studebaker's President, limousine model, at the other end at \$2495



... every one a "Six" ... each of typical Studebaker value.

If Studebaker is inadequately represented in your locality, or not represented at all, write us at once regarding the sales rights for your territory. Your inquiry will be held strictly confidential. Address Dept. 51, The Studebaker Corporation of America, South Bend, Indiana.

STUDEBAKER

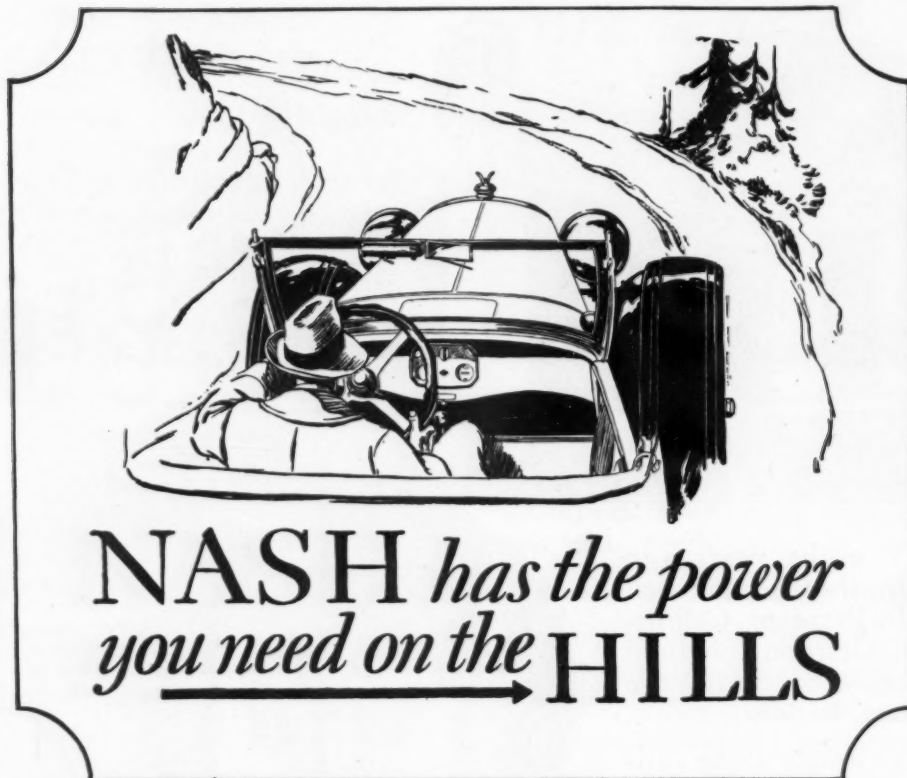
ERSKINE SIX



Two franchises in one—offering cars from \$945 to \$2495

Another—

Great Nash Sales Advantage



Every Nash owner notices that he has very little gear shifting to do on hills, no matter how steep the grades may be.

Nash is a very powerful motor car. There is nothing half-hearted or sluggish about its response—the motor never “talks back” at you—even though you are climbing mountains.

One reason is the more than adequate power designed into every Nash motor car.

Nash engineering has provided reserve energy for situations that tax

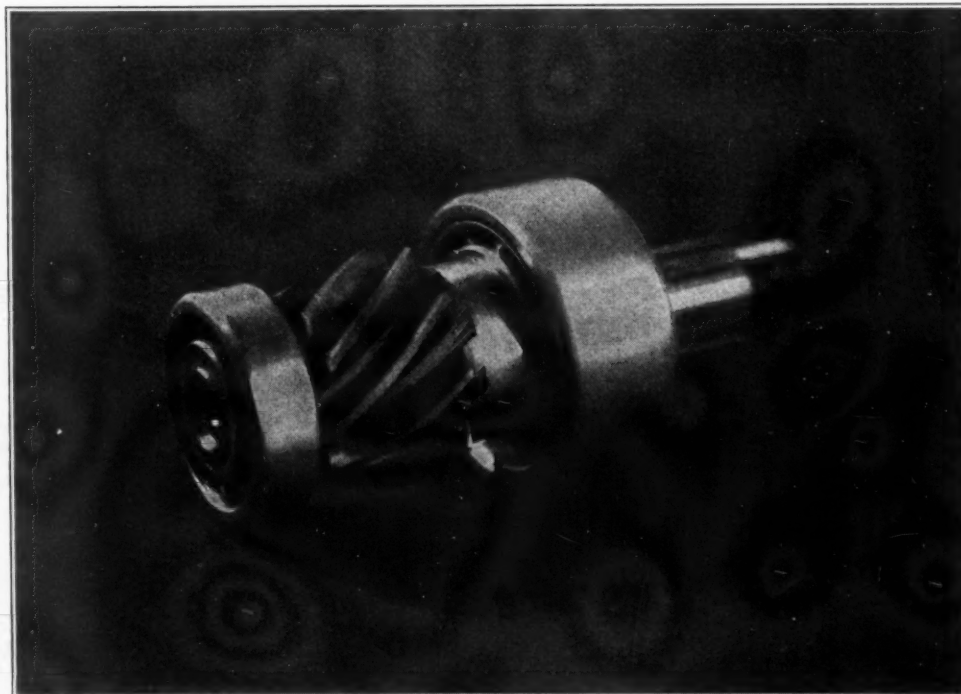
the resources of other cars, and extend their engines to the point of strain.

Another reason for the powerful performance of Nash is 7 bearings. 7 bearings in every Nash model, instead of 3 or 4, means that power is not thrown away by crankshaft “whip.” Proper bearing support conserves energy that older motor types waste.

Quick acceleration—powerful responsiveness—such as Nash provides, is a safety factor you cannot overlook. It is invaluable on the hills, very handy in traffic.

NASH

Leads the World in Motor Car Value



Quiet Rear Ends —and how to retain them

THE pinion will perform quietly and efficiently only if its location in relation to the ring gear is *never changed*. New Departure Ball Bearings hold the pinion *immovable always*—an ability not shared by any other bearing type.

Ball bearing adjustments are not effected by expansion of related parts from changes in temperature.

Built into New Departure is the ability to prevent change in tooth contact under the changing operating loads.

The New Departure supported pinion is foolproof construction, while other bearing types must be adjusted from year to year.

When you must adjust a bearing for wear, you have lost the original tooth contact. Then you may have to make an auxiliary adjustment to obtain this original positioning—a feat requiring a high degree of expertness. Otherwise there is danger of gear failure and the certainty of undesirable gear noise. All this intricate detail is eliminated when you have New Departure Ball Bearings supporting your pinion.

These points explain the strong movement to ball bearing pinions, which has been under way during the last three years.

The New Departure Manufacturing Company, Bristol, Connecticut, Detroit, Chicago and San Francisco.

New Departure Quality Ball Bearings



CHRYSLER REPUTATION *and* CHRYSLER SUCCESS

*Offer YOU Your Best Opportunity to Make
More Money Selling Motor Cars*

Contrast Chrysler dealer sales records with those of other dealers. Profit is the obvious reason why the Chrysler franchise is one of the most eagerly-sought in the industry.

Where others have lost ground, Chrysler has forged ahead; where others have gained slightly, Chrysler success has swept it far into the lead.

Today Chrysler, with its four great lines of cars, giving dealers extraordinary sales opportunities in four great quality markets, ranks fourth in dollar volume of sales.

Now is the time for you to consider seriously sharing in this astounding success.

CHRYSLER

MOTOR AGE

VOLUME LI

Philadelphia, Pa., June 2, 1927

NUMBER 22

Ford States New Model is on Way

Withholds Details But Says it Embodies Refinements—
Making to Cost More

MODEL T IN DOUBT

DETROIT, May 26—A formal statement by Henry Ford and Edsel Ford, issued today, says that the Ford Motor Co. will put a new light car into early production, the details of its design to be made public within the next few weeks. The statement leaves somewhat in doubt the question as to whether the new car will succeed the Model T or supplement it.

In one part of the statement Henry Ford is quoted as saying:

"We began work on this new model several years ago. In fact, the idea of a car to succeed the Model T has been in my mind much longer than that. But the sale of the Model T continued at such a pace that there never seemed to be an opportunity to get the new car started. Even now the business is so brisk that we are up against the proposition of keeping the factory going on one model while we tool up for another."

Mr. Ford's only official word on the new car was:

"At present I can only say this about the new model—it has speed, style,
(Turn to page 12, please)

Dark Horse Winner



George Souders
The youthful driver who surprised by
winning 500-Mile Sweepstakes

Mechanical Troubles Plentiful at Speedway

By PAUL DUMAS

INDIANAPOLIS, May 30—The very high average speed of the leader during the first 200 miles, combined with the bumpy condition of the track, was responsible for the abnormally large
(Turn to page 19, please)

Geo. Souders Wins 500-Mile Classic

Young Hoosier From Dirt Tracks Outlasts Veterans in Indianapolis Race

AVERAGES 97.54 M. P. H.

By SAM SHELTON

INDIANAPOLIS, May 30—Stamina to stay in a race replete with dramatic and spectacular incidents today brought fortune and victory to George Souders and his Duesenberg Special in the Fifteenth Annual International Sweepstakes 500-mile race.

Coming to the front from what looked like a poor start and surviving drivers and mounts of greater experience and flashier speed, the youthful Hoosier, with nothing much but a dirt track reputation to recommend him, finished the 500 miles in 5 hr. 7 min. 33 8/10 sec. at an average speed of 97.54 m.p.h.

Thus the first 500-mile race of the 91½ cu. in. cars under the jurisdiction of the Contest Board of the American Automobile Association established a record on the brick oval at Indianapolis comparing favorably with the 101.13 m.p.h. for the same distance established here May 30, 1925, by the 122 cu. in. cars.

In the Memorial Day race last year the 91½ in. cars were used for the first time, but because of rain the race was called at 400 miles when Frank Lockhart in his Miller Special was declared the winner with an average of 95.88 m.p.h.

(Turn to page 20, please)

Hurt Racers Will Recover

INDIANAPOLIS, May 31—Hope is held for recovery of all three drivers injured in yesterday's race. Jules Ellingboe suffered a crushed chest and broken bones, and is in a serious condition. Henry Kohlert's skull was fractured. Norman Batten's burns were not as serious as at first thought.

G.M. Expands Offices

NEW YORK, May 26—General Motors Corp. has leased additional space in the General Motors Building, to which the executive offices were recently moved. The corporation took over the twelfth floor and large additional space on the second floor, making a total of more than 14 floors occupied.

First Ten Drivers and How

They Finished at Indianapolis

INDIANAPOLIS, May 30—The first 10 drivers who finished today's 500-mile race, their cars, time and average miles per hour, are as follows:

Car	Driver	Time	Av.
1. Duesenberg Special	George Souders	5:07:33.08	97.54
2. Miller Special	Earl Devore	5:19:35.95	93.86
3. Miller Special	Tony Gulotta	5:22:05.08	93.14
4. Jynx Special	Wilbur Shaw	5:22:12.05	93.11
5. Duesenberg Special	Dave Evans	5:30:27.11	90.78
6. Per. Cir. Duesenberg Spec.	*Peter De Paolo	5:31:49.34	90.41
7. Miller Special	Eddie Hearne	5:33:05.74	90.06
8. Boyle Valve Special	†Ralph Hepburn	5:52:36.21	85.65
9. Miller Special	Cliff Bergere	6:15:20.07	79.93
10. Junior Eight Special	Frank Elliott	6:23:25.69	78.24

* Finished Bob McDonogh's car.

† Finished Tommy Milton's car.

In addition to these, Fred Frane, in a Miller Special, and Jimmy Hill, in a Nickel Plate Special, were running at the finish.

Changing Cycles

By C. A. MUSSELMAN

President, Chilton Class Journal Co.

Publishers of MOTOR AGE

NOTHING 'stays put' any more."

This seems to be a universal phrase, used by our best business men, who in the past year have noticed a growing tendency for things commercial to change rapidly.

Emerson said: "If a man write a better book, preach a better sermon or make a better mouse-trap than his neighbor, though he build his house in the woods the world will make a beaten path to his door."

Even philosophy must readjust itself, because no longer does the public wander through the wilderness to obtain what it may consider best, but largely buys that for which aggressive individual or organization has created a demand.

The early teachings that design, manufacture and production are the keynotes to success are rapidly changing and everywhere we hear expressed the opinion that the greatest essential in business today is distribution.

Therefore manufacturers and dealers alike are striving earnestly in their endeavor to solve this problem, and we now pledge our readers that MOTOR AGE will make a sincere effort to help find the answer to this all-absorbing question.

AC Establishes Five District Sales Offices

DETROIT, June 1—The AC Spark Plug Co. has opened district sales offices at five important points throughout the United States. No stocks will be carried at these points but the establishment of the district offices is to insure closer field supervision and co-operation between the factory and its distributing outlets.

The offices and their respective managers follow: New York, 1913 General Motors Building, J. C. Hines; Atlanta, Ga., 228 Hurt Building, A. S. Holmes; San Francisco, 1120 Financial Center Building, J. E. Stone; Kansas City, 200 Huntzinger Building, V. J. Snively, and Flint, factory, O. B. Letts.

Reo Schedules 100 Wolverines

DETROIT, June 1—The large influx of orders for the new Wolverine has caused the Reo Motor Car Co. to increase production schedules for this model to 100 cars a day, or double the output originally anticipated.

N.S.P.A. Sets Dealer Nights

DETROIT, May 21—A feature of the National Standard Parts Association's show to be held in Cleveland, November 14 to 18, will be two dealer nights. On these nights the show will be open to visiting dealers and shopmen.

Will Distribute Hupp

SAN ANTONIO, TEX., June 1—Organization of the San Antonio Motor Co., distributor of Hupmobiles, has been announced by John A. Crawford, vice-president and general man-

ager. Officials are: President, William B. Lupe; vice-president, R. L. Ball; secretary, W. T. Lemmon, and Mr. Crawford.

As Hupmobile distributor, the San Antonio Motor Co. will serve a territory of 50 Texas counties, which includes the Rio Grande Valley from Laredo to Brownsville, in addition to San Antonio.

2000 at Trade Meeting

DETROIT, May 26—More than 2000 persons representing the business interests of 20 nations are assembled in Detroit for the fourteenth annual Foreign Trade Council which opened today for a three-day session. Among the speakers Thursday is Roy D. Chapin, chairman of the board of the Hudson Motor Car Co., and president of the National Automobile Chamber of Commerce, whose topic is, "The Motor Influence in Our Foreign Trade."

Zucker Co. Wins Contest

CLEVELAND, May 26—Honors in the Reeke-Nash sales contest which was carried on for the past six weeks went to the Zucker-Nash Motor Sales Co. The award was based on the sales ability of the dealer salesmen to sell new and used cars. It was \$100 in cash and a dinner to the company.

To Open Hudson District Office

OKLAHOMA CITY, May 26—District offices of the Hudson Motor Car Company will be opened in the new Perrine Building in Oklahoma City, H. K. Loland, district manager, announced.

A. E. A. Has Course in Merchandising

Training of Salesmen Will Cover All Phases of Sales and Service

CHICAGO, May 27—Arrangements have just been completed by the Greater Market Development Division of the Automotive Equipment Association for the establishment of a training course in automotive merchandising.

This course, designed for jobbers' salesmen and the retail trade, will cover all phases of automotive sales and service as they affect the after-market. It is one of a series of services planned as part of the greater market development work recently inaugurated by the Automotive Equipment Association.

A contract has been entered into with a leading concern specializing in the development of business training courses, and preliminary work already is under way. During the next 60 days over \$25,000 will be spent in a survey of automotive selling. As a result of this survey, the most approved practices and methods of successful retailers in all sections of the country will be made available for every dealer and every salesman interested in building for greater profit.

Cincinnati Repair Shop and Garage Men Unite

CINCINNATI, May 28—Garage and repair men have organized the Garage and Automobile Repair Shop Association with Arthur F. Heinss, president; Charles Herrmann, vice-president; George Balz, treasurer; Irwin Klein, secretary, and D. J. Slaline, legal adviser. A Nelson Pope, E. C. Myers, Wilbur Cheney, Homer S. Tome, Clarence A. Baiter, Frank M. Yerkes and C. F. Heinss were named directors. The association starts with 40 members.

Windsor Plan for Milwaukee

MILWAUKEE, May 28—Milwaukee automotive dealers are giving the Windsor plan of merchandising used cars a thorough trial, and after the first week most of them are enthusiastic over the possibilities offered by the system. The newspapers are giving the dealers close cooperation.

Jobber Buys Into Boston Braves

BOSTON, June 1—Bruce Wetmore, of the Wetmore-Savage Automotive Equipment Co., automotive jobber in New England, is now a part owner of the Boston Braves.

Buys 76 New Buick Trucks

DETROIT, May 28—The General Motors Truck Co. has sold 76 of the new Buick-powered six-cylinder trucks to the Standard Oil Co. of New Jersey.

Parts, Accessory Trade Holds Firm

Service Equipment Shares in
Recording Business Just
Under March

NEW YORK, May 27—Parts, accessory and equipment business in April, as reported to the Motor & Accessory Manufacturers Association by its members, was only slightly behind the March level, which was the highest since October, 1925. In line with the seasonal trend, a moderate recession is expected this month.

The aggregate volume of shipments of members in all groups in April stood at 175, an index figured with January, 1925, shipments as a base. This compared with 181 in March and 161 in April a year ago. A new record was scored by shop equipment manufacturers, while accessory makers continued their gains of the last few months. Original equipment and replacement parts shipments declined slightly from the March level, as was expected, because of the seasonal influences.

The index of shipments of parts and accessory makers for original equipment was 185 as compared with 195 in March and 160 in April last year.

Shipments of shop equipment manufacturers to the trade reached an index of 223 as compared with 210 in March and 208 in April last year.

Accessory makers' shipments stood at 156 as compared with 135 in March and 176 in April last year.

Replacement parts makers' business aggregated 117 as compared with 120 in March and 141 in April last year.

Rice Lauds Instalment Selling as a Blessing

DETROIT, May 27—The instalment plan of buying found a ready champion in H. H. Rice, assistant to the president of General Motors Corp., when he addressed the Detroit Adcraft Club. The instalment plan is a blessing, he said, in that it keeps men at work and they do not have time to become disgruntled and consequently work harder to meet payments on purchases that make living better for their families.

The advertising man has an opportunity to raise business ethics, he said, for in his hands lies the medium of communication to the public. In this connection the advertising clubs and better business bureaus were praised for improving business ethics throughout the country.

Fisher Has Modern Shop

CINCINNATI, May 27—The Charles Fisher Co., tire dealer, specializing in Goodrich tires, has taken over a new building erected for it at 316-318 Reading Road. The Fisher company for years has been located at 922 Race St.,

catering chiefly to commercial business. In the new building the company will have a complete drive-in service, tire and repair departments, and auto laundry and attractive reception room for women drivers while their cars are in the shop for minor repairs.

Big Brake Shop Projected

CINCINNATI, May 28—One of the largest brake service stations in the Middle West will be established in the block bounded by the west side of Harriet St., between Court and Gest Sts., Cincinnati, by George W. Koch, president of the Auto & Aero Supply Co. and the Auto Brake Service Co., Cincinnati. The station will be 188 by 55 ft. and devoted entirely to brake service.

Cover State for Velie

MILWAUKEE, May 28—The Gunderman Motor Sales, 393 First Avenue, Milwaukee, has been awarded the Velie franchise as distributor for the Wisconsin territory.

Associated as city of Milwaukee dealers are Roy's Garage, 1034 Central Avenue, and the Strauss Motor Sales Co., 667 Mitchell Street.

Volume Won't Do It; Methods Will!

BY JULIAN CHASE

Directing Editor, Chilton Class Journal Company
Publishers of MOTOR AGE

THE automobile dealer must make more money. Almost everyone in the industry today is not only ready to admit the truth of that statement, but is also earnestly interested in having that truth established as an accomplished fact.

This interest, naturally, is not born of altruism. It is recognized that the welfare of the dealer is a matter of serious concern to the manufacturer and the wholesaler. They both need prosperous dealers, dealers who stay in business because they know how to make living profits and something more. It is important to them that the dealer should be a money maker. They see it now with increasing clearness. It is important to them, but how much more important it is for the dealer!

From what will greater dealer profits come? Volume alone has not yielded them. If it could, dealers now would be browsing in a field of clover. Volume won't do it. Methods will!

A big trade association made up of manufacturers and wholesalers has embarked on a campaign for extended markets and one of the chief means of accomplishing the end sought is an effort to show the dealer how to increase his profits. One of the very largest of our car manufacturing companies is about to put into operation a tremendous new department whose sole purpose is to help dealers solve their business problems. These two agencies and the many others which are now at work can only supplement and carry into the realm of actual application the advice and counsel that has been broadcast for many years by all progressive business papers in the automotive field.

Volume won't do it; methods will. MOTOR AGE has consistently and persistently striven to bring that fact into the thoughts of its readers. The automotive dealer must make more money. Almost everyone knows it. Others can help with advice and suggestions but, in the last analysis, the only one who can really do anything to bring it about is the dealer himself. It is not a matter of volume. It is a matter of methods.

Kelsey-Hayes Merger Terms Are Approved

NEW YORK, May 26—Terms of the merger of Kelsey Wheel Co. and Hayes Wheel Co. were formally ratified by Kelsey stockholders at a meeting today and steps will immediately be taken to put the plan into operation. The new company will be known as the Kelsey-Hayes Wheel Co. Election of two additional directors was authorized. The new directors will be men now associated with the Hayes company. The same operating personnel will be maintained with G. W. Kennedy continuing as president.

Sloan Made Branch Manager

BIRMINGHAM, ALA., June 1—Announcement has been made by the Thompson Oldsmobile Co., operating agencies in several states, of the appointment of Willett P. Sloan, formerly of Lakeland, Fla., as manager of the Birmingham branch which distributes in Birmingham and eight surrounding counties in Alabama. Associated with Mr. Sloan will be Don Donnelly, a "72 Club" man from Chevrolet.

Production is Cut to Seasonal Level

Gives Dealers Opportunity to Reduce Stocks of New and Used Cars

NEW YORK, June 2—Production of motor cars is being generally curtailed this month, although a few of the factories are maintaining output rates established earlier. The second quarter showing, despite the slowing down that is expected at this time of year, should be very good for most companies. Large production schedules held in the first months of the quarter will counterbalance largely such revisions made.

Announcement of the forthcoming new Ford light car is likely to cause a somewhat retarding effect on the sales of cars in the lower priced brackets, but the industry generally is pleased that the announcement was made at a period when sales have a seasonally declining tendency. The effect of the announcement unquestionably will be most exerted in the case of Ford's own product.

Totals of car and truck output in May will show an increase over April, according to advance estimates, the truck market again showing up more favorably than the passenger car in comparison with 1926 business. Considerable rejuvenation is noted in the truck industry as a result of the sustained good business, many of the smaller companies becoming much more active.

Stocks of new and used cars in dealers' hands generally are normal and the adjustment in manufacturer shipping schedules in June should bring them to a very satisfactory level.

Buick Dealers Confer

DUBUQUE, IOWA, May 27—Thirty Buick dealers from Iowa, Wisconsin and Illinois attended a sales and service gathering in the Buick Motor Co. headquarters here. J. E. Marron, factory representative, was in charge.

Salesology



Olds Makes Price Cuts Up to \$115 on Its Line

LANSING, June 1—Olds Motor Works has announced price reductions, running as high as \$115 in some instances, on all Oldsmobile body types. They are effective June 1. The new prices are as follows:

Two-door sedan, \$875; coupe, \$875; four-door sedan, \$975; de luxe roadster, \$895; de luxe touring, \$895; sport coupe, \$965, and landau, \$1,075.

In addition to the price reductions, it is announced that front and rear bumpers are now standard equipment on all body types.

Hudson Prepares for Expansion of Activity

DETROIT, May 27—To rearrange and expand its facilities for a larger production of Hudson-Essex cars, the Hudson Motor Car Co. will curtail its manufacturing schedules early in June. The period of curtailment will be brief and at no time will manufacturing be suspended entirely. The enlargement of the manufacturing facilities is in response to the demand for cars, which this spring has been much larger than could be supplied. Despite the curtailment, June production will be around 25,000 cars.

Ford States New Model is on Way

Will Incorporate Refinements and is Expected to Have Standard Gear Shift

(Continued from page 9)

flexibility and control in traffic. There is nothing quite like it in quality and price. The new car will cost more to manufacture, but it will be more economical to operate."

Explaining why the company is offering the new model, Mr. Ford said:

"The Model T Ford car was a pioneer. There was no conscious public need of motor cars when we first made it. It is still the pioneer car in many parts of the world which are just beginning to be motorized. But conditions in this country have so greatly changed that further refinement in motor car construction is now desirable and our new model recognizes this.

"With the new Ford we propose to continue in the light car field, which we created, on the same basis of quantity production we have always worked, giving high quality, low price and constant service."

On its face, the statement indicates that the Model T will be continued largely for pioneering in various parts of the world, with some considerable volume of business continuing in the United States. It is also believed likely that the modified Model T chassis will continue to be the main truck unit of the company.

Sources close to company officials indicate that the new model will have a standard gear shift.

Lapiner Takes Sales Prize

MASON CITY, IOWA, May 28—The Lapiner Motor Co. has received \$300 cash bonus and a silver loving cup offered by the Hudson-Jones Automobile Co., Des Moines, for leading the state dealers in a 45-day sales contest, recently closed.

What's Coming in Motordom

SHOWS		CONVENTIONS		RACES	
Chicago	Nov. 7-12	San Francisco	Feb. 25-March 3	National Automobile Dealers Association, Sales Meeting	San Francisco
Exposition, Coliseum, Automotive Equipment Association.		Automobile Salon, Hotel St. Francis			June 21
*Chicago	Jan. 28-Feb. 4	*Will have special shop equipment exhibit.			
National, Coliseum, National Automobile Chamber of Commerce.					
Chicago	Jan. 28-Feb. 4	American Automobile Association, Annual Meeting, Ritz-Carlton Hotel, Philadelphia	June 16-17	National Standard Parts Association, Hotel Hollenden, Cleveland	Nov. 14-19
Cleveland	Nov. 14-19	Automotive Equipment Association, Summer Convention, Multnomah Hotel, Portland, Ore.	June 27-July 2	North Carolina Automotive Trade Association, Morehead Villa, Morehead City, N. C.	August 15-16
Des Moines	Feb. 20-25	Automotive Equipment Association, Coliseum, Chicago	Nov. 7-12		
Green Bay, Wis.	Aug. 29-Sept. 2	National Association of Automobile Show and Association Managers	Drake Hotel, Chicago	July 28-29	
Los Angeles	Feb. 11-18	National Automobile Chamber of Commerce, Factory Service Managers' Forum, Hotel Statler, Cleveland	June 14-15	Abilene, Texas	July 4
New York	Nov. 27-Dec. 3	National Automobile Dealers Association, Sales Meeting, Los Angeles	June 14	Altoona, Pa.	June 11
*New York	Jan. 7-14				
National, Grand Central Palace, National Automobile Chamber of Commerce.					

Morgans Increase Manville Interests

Famous Banking House Acquires Substantial Block of Common Stock

NEW YORK, May 28—Johns-Manville Corp. has concluded an arrangement with J. P. Morgan & Co. under which the latter will obtain a substantial common stock interest in the Manville company, it was announced here today. This action follows the purchase of a large block of preferred stock by the Morgan company in December.

H. E. Manville, in his statement, said he would continue as an officer and director. He said further no change in the policies of the company is contemplated.

It is not known whether the new stock purchase with its former preferred holdings will give the Morgan company control of Johns-Manville, but the financial district leans to the opinion that the Manville interests are preparing to retire from active participation in the business.

Boston Truck Men Elect

BOSTON, May 27—At the annual meeting of the Boston Commercial Motor Vehicle Association today the election of officers resulted as follows: Wilbur A. Maynard, Mack Motor Truck Co., president; P. S. Altman, Boston Road King Sales Co., vice-president; Day Baker, Motor Vehicle Activities, treasurer; Chester I. Campbell, secretary. Directors chosen were Wilbur A. Maynard, P. S. Altman, Perry S. Fay, James M. Linsott, Day Baker, D. Earle Brackett, R. H. Nesbitt and M. I. Stone.

It was voted to send a copy of the activities of the association in legislative matters to all manufacturers and dealers represented in New England.

Plans \$100,000 Home

DETROIT, June 1—The Eastern Motor Sales, at Kercheval and Weyburn Avenues, in Grosse Pointe, which has been granted an Oldsmobile franchise, will erect a model sales and service station to cost approximately \$100,000.

Spencer Made Zone Chief

LOS ANGELES, June 1—R. H. Spencer, of Los Angeles, has been appointed southwest zone manager for the Republic Truck Sales Corp., with jurisdiction over California, Arizona, New Mexico and Nevada.

Fisher to Build Paint Shop

DETROIT, May 28—A paint shop to cost \$250,000 will be erected at Pontiac by the Fisher Body Co., as an addition to its factory in that city. The building will be 75 by 608 ft. and will have a capacity of 1200 bodies a day.

Profit in 1927 for Efficient Dealers

By NORMAN G. SHIDLE
Editor, *Automotive Industries*

AUTOMOTIVE prospects for the remainder of 1927 look good to the manufacturers, although there is a distinct tendency toward conservatism in production and sales expectations.

Thus far, in 1927, the automobile business has run along just about as had been predicted by most close observers among the manufacturers at the time of the New York Show. The accuracy of the prophecies made at that time indicates a growing stability and soundness in the business as a whole. Manufacturers, for the first time, seem to be in a position to have a reasonable idea of what lies ahead and to plan their activities accordingly.

This increasing stability in the industry, plus a growing realization on the part of manufacturers that a fair chance for net profit must be provided for the dealer as well as for themselves, should mean firm business and good profits for the efficient dealer throughout 1927.

Perfects New Heater

NEW YORK, June 1—Laminated Shim Co., of Long Island City, will announce shortly the addition of a heater. It is understood that the heater employs a new principle so far as automotive practice is concerned. The heater will be made for all makes of cars.

Graham Brothers Are Voted Control

Two Weeks More Expected to Elapse Before Plan Becomes Effective

DETROIT, May 26—At a special meeting yesterday, stockholders of the Paige-Detroit Motor Car Co. approved the plan whereby the Graham Bros. are to acquire control and take over active management. The vote of the stockholders present and stock represented by proxy was unanimous. The plan cannot become effective for about two weeks until certain important details are completed, including the obtaining of necessary waivers from the common stockholders whereby the Grahams can be permitted to purchase \$4,000,000 par value second preferred stock, and be given an option to purchase additional common stock in connection with their proposed management contract.

W. A. Wheeler, president, said, "The response of our stockholders has been splendid. We hope the small percentage who have thus far failed to send in their waivers will do so immediately so this plan, which means so much for the Paige company, can be made effective without delay."

Reo Adds Eleven Dealers

LANSING, May 26—Reo Motor Car Co. announces appointment of the following dealers:

Knight Sales Co., Clarksburg, W. Va.; Greenwich Reo Sales Co., Greenwich, Conn.; L. Moncion, Mont-Laurier, Que.; Laframboise & Plamondon, St. Hyacinthe, Que., and Radio & Motor Sales, Three Rivers, Que.

Lee Force, Royal Oak, Mich.; V. D. Benedict, Marion, Ohio; Indian Motor Car Co., Upper Sandusky, Ohio; Jack's Garage, Indiana, Pa.; Miller Garage, Johnsonburg, Pa.; Frank L. Myers, New Bethlehem, Pa.



Paavo Nurmi, famous on the cinder path as the "Flying Finn," has become a dealer for Oakland and Pontiac cars at Abo, Finland. Nurmi is at the extreme left of the group

Ford April Output Estimated 100,000

Approximate Rate is Considerably Higher Than Had Been Anticipated

PHILADELPHIA, May 26—Combination of the Canadian car and truck production totals for April with those of United States manufacturers shows a gross total for the month of 422,177, which compares with 452,025 for April, 1926. In March, this year, the combined production for manufacturers in both countries totaled 409,464.

The Canadian totals in April, this year, showed passenger output of 20,890 and truck output, 3721. The United States totals were 353,071 passenger cars and 44,495 trucks, a total of 397,566.

Deduction of the production total of 323,143 as set up by manufacturers of cars and trucks affiliated with the National Automobile Chamber of Commerce in April indicates a production of 99,034 for Ford Motor Co. and non-affiliated truck companies in April. This figure will be increased slightly by later reports from truck companies. With allowances for the delayed reports it is evident that the Ford production in the United States and Canada was close to the 100,000 mark.

Ford Exports Excluded

Though the Ford estimated totals indicate a considerably reduced rate of operation in the United States plant from the totals it was setting up in 1924, the rate is considerably higher than had been estimated in many quarters. This is especially the case when it is remembered that a large part of the company's export business resulting from assemblies abroad is not included in these totals.

The Chevrolet April total of 111,937 indicates an approximate excess of 12,000 over the Ford total production in United States and Canadian factories. As in Ford's case, the Chevrolet total does not include cars assembled abroad, but as the Ford export assembly plants considerably outnumber the Chevrolet plants the world totals of the two companies would in all probability show the Ford company still leading in actual number of units produced.

Gardner Honors Patterson

KANSAS CITY, MO., June 1—The Gardner factory has presented B. V. Patterson, sales manager of the Gardner Motor Sales Co., of Kansas City, a handsome wrist watch for making an exceptional sales record in April.

Becker-Goldsmith Moves

ATLANTA, June 1—The Becker-Goldsmith Co., Georgia distributor for the Hudson and Essex, has moved into

its new home at 160 Spring St. J. W. Goldsmith, Jr., president, is one of the oldest automobile distributors in the South so far as years in the business are concerned, having been a dealer and distributor in Atlanta for 20 years. He is one of the three dealers in the United States who have handled the Hudson ever since the company was established.

Buymanship—the Lane to Profit

BY LEON F. BANIGAN

Editor, Motor World Wholesale

IF I were asked to compress into one word the things that the average automotive business man today needs more than anything else to insure for him a reasonable return on the money and effort and time he is investing, I would call it "Buymanship"—buymanship to match in intensity the salesmanship that is being exerted in order to move into public possession the motor vehicles and supplies of our industry.

It is an axiom of paramount importance to the merchant that "Well-bought is half-sold."

Buymanship intelligently applied on a plan based on actual knowledge of public desires and preferences, of competition and of merchandise, determines whether you are a successful merchant.

Successful merchants apply no mysterious methods in attaining profitable buymanship. Here are three simple rules of buymanship:

1. Buy and stock only merchandise of established quality for which there is either a definite or strong potential public demand or necessity.

2. Buy from responsible, well-established wholesalers of your locality and profit by their knowledge of the market in which you are located.

3. Have a reason for buying what you buy and also a reason for the quantities. Buying in quantities that are too small is just as unprofitable as buying in quantities that are too large.

Sets Up Used-Car Business

MILWAUKEE, May 28—Gean B. Smith, formerly assistant sales manager of the Edwards Motor Car Co., Milwaukee, distributor of the Dodge, has established a used-car sales and service station at 2449 State St., Milwaukee. Associated with him is Roy Bergsma, formerly foreman of the used car reconditioning and mechanical department of the Edwards company.

Burwell Acquires Buick Dealership

Buys Out Bennett Bros. After Having Disposed of His Ford Business

SPARTANBURG, S. C., May 26—Ernest Burwell, Inc., largest Ford dealer in South Carolina until it disposed of its Ford interests recently, announces its appointment as authorized Buick dealer in this territory. Burwell succeeds Bennett Bros., and has moved its office and showroom equipment into the Bennett Building.

Ernest Burwell, president, revealed that he made arrangements for purchasing the Bennett business before disposing of his Ford account.

Mr. Burwell has selected some of the best men who served with Bennett Bros., and these, together with his own experienced force, will constitute the personnel of the new Buick organization.

"It is our intention," said Mr. Burwell, to establish new sales records for Buick in this territory as we did for Ford."

Moon Names Distributor in Philadelphia District

PHILADELPHIA, June 1—William Baron, Maurice Baron and John C. Clymer have secured from W. G. Wallace, vice-president of the Moon Motor Car Co. the metropolitan retail distribution for the Moon Six and Diana Straight Eight in the city and county of Philadelphia. The new organization will be known as the Philadelphia-Diana-Moon Company. A large sales establishment will be maintained at 1244-46 N. Broad St. and another in conjunction with the parts and service department at 4733-35 Chestnut St.

It is the intention of the new company to feature in both salesrooms a permanent automobile salon showing the very latest ideas in body designs on Moon and Diana chassis.

Hemphill Names Three Dealers

KANSAS CITY, MO., June 2—The Hemphill Motor Co., distributor in this territory for the Falcon-Knight line, announces the appointment of the following new dealers: Knight Motor Co., Manhattan, Kan.; Clinton Motor Co., Clinton, Mo., and Knight Motors, Leonardsville, Kan.

Packard Expands Plant

DETROIT, May 27—The Packard Motor Car Co. is expending \$1,250,000 in the expansion of its power house. The program includes a complete new heating system for the factory, a 6000 kilowatt steam turbine and dynamo, a new 1200 hp. boiler and a system for burning wood refuse. Power will be a by-product of the new heating plant.

Chevrolet Effects Personnel Changes

Klingler Elevated to General Sales Manager Assisting R. H. Grant

DETROIT, May 28—R. H. Grant, vice-president in charge of sales of the Chevrolet Motor Co., today announced the appointment of H. J. Klingler as general sales manager of the Chevrolet Company. He also made known that M. D. Douglas has been appointed assistant general sales manager for the eastern district and R. E. Ralston, assistant general sales manager in charge of the western district. Both men will make Detroit headquarters.

In keeping with Chevrolet's rapid expansion program, Mr. Grant also announced the establishment of several new zones and a number of personnel changes made necessary by promotions all along the line. Chevrolet, during the past two years, has practically doubled the number of sales zones, Mr. Grant declared. The company now has 41 zones and when further plans are completed by Aug. 1 this number will have been increased to 43.

Klingler Rich in Experience

Mr. Klingler has been associated with Mr. Grant in sales work for eight years. He was first connected with the the Delco Light Co. at Dayton and later became zone sales manager for Chevrolet at St. Louis, from where he was promoted to assistant general sales manager a year ago. Mr. Douglas has been in the Chevrolet sales organization since 1915 and Mr. Ralston since 1919, both men having worked their way up through the various sales positions to become assistant general sales managers.

A. F. Young, who has been sales manager of the Flint region, goes to Norwood, Ohio, to become sales manager of the southeastern region, succeeding Mr. Douglas. A. W. Gilpin, formerly of the Detroit office, becomes sales manager of the midwest region with headquarters at St. Louis, succeeding Mr. Ralston.

J. C. Chick, formerly zone sales manager at Boston, succeeds Mr. Young in charge of the Flint region. H. J. Walsh, formerly zone sales manager at Buffalo, replaces Mr. Chick at Boston. L. I. Stewart, formerly zone sales manager at Pittsburgh, goes to Buffalo and is succeeded as sales manager at Pittsburgh by Wm. E. Holler, formerly of the St. Louis region. G. I. Smith, formerly regional sales promotional manager at Cincinnati, becomes sales manager of the newly created zone at Charleston, and E. A. Nimnicht, formerly sales promotional manager at St. Louis, becomes regional manager at the newly created zone at Wichita.

Paul Seese, formerly zone sales manager at Fargo, becomes zone manager

at Kansas City and T. F. Kinman, formerly assistant zone manager at Omaha, succeeds Mr. Seese.

Mr. Grant stated that the rearrangement of the Chevrolet sales organization would mean that Mr. Klingler will devote his time to sales administration and will enable Mr. Grant to have more time to formulate policies and keep in even closer touch with conditions in the field.

Sell Owners of Your Car Another

BY A. V. COMINGS
Editor, Automobile Trade Journal

A RECENT bulletin issued by the National Automobile Chamber of Commerce states that there are 2,700,000 families in the United States that now own two or more automobiles.

As very few automobile dealers have carried on a consistent campaign to sell another car to the man who already owns one, it is logical to assume that a large majority of these second and third cars were bought by prospects, rather than sold by dealer salesmen.

It is a pretty safe bet that the car dealer who goes over the list of his present car owners, and sifts out the family men who really ought to have another car for wife, daughter or son, and then starts a real campaign to "sell 'em another car," will add measurably to his volume and profit during summer months.

Several hundred thousand college boys and girls will soon be home and using the old man's car just when he and mother need it most. It's a good time to sell father another car for the young people.

And something like a million June brides will shortly promise to love and obey. Many of them are going to have new cars, so their new husbands may continue to go to work in the old buses.

"Two cars to the family" is a pretty good slogan for 1927 if dealers will make it more than just a slogan.

Fidelity Adds Associates

BALTIMORE, May 27—Fidelity Motors Co., Chrysler distributor, has announced the appointment of two new associate dealers. They are the Mountain City Garage, Frederick, Md., operated by Raymond B. Archer and Gilmer Lescallett, and the Northern Motors Co., 3937 Falls Road, Baltimore, headed by Martin J. and Proctor T. Meyers.

Apco Arranges to Buy Out Mossberg

Merger Will Result in Apco- Mossberg Corp., With \$2,000,000 Assets

NEW YORK, May 28—Apco Mfg. Co. has completed arrangements for the purchase of the Frank Mossberg Corp. of Attleboro, Mass., the two to be merged and known as the Apco-Mossberg Corp. Announcement of the deal was made by T. F. Wilson, president and treasurer of Apco, who will continue in the management of the new company assisted by the most able executives of both organizations.

Both of the merged companies have long been favorably known in the automotive industry. The Apco company dates back to 1909 when it was founded by Mr. Wilson as the Auto Parts Co. Mossberg has been a leading factor in the automotive wrench business for 25 years. The combined sales of the companies approximates \$2,000,000 a year.

Combined assets of the Apco-Mossberg company will be close to \$2,000,000. No new financing is contemplated in connection with the merger, the entire transaction being made through an exchange of securities. Many parts bought by Apco previously will now be manufactured in its acquired plant. Several new items also will be added to the line. For the present, operations will be continued at both Attleboro and Providence, but it is planned to consolidate operations at Attleboro later.

Marvel Mystery Oil is Being Made by Emerol

NEW YORK, June 2—The Emerol Mfg. Co. has embarked upon the manufacture and sale of Marvel Mystery Oil, a penetrating oil designed for mixture with the oil in the crankcase and for lubrication in other parts of the car. It is also used to soften carbon and dissolve rust, being especially recommended for new engines and for sticking and carbonized valves. The factories are at Chicago and New York.

Burt N. Pierce, well-known in the industry for his development of carburetors, is president of the Emerol company, which recently absorbed the Visible Gas-O-Clean Corp., maker of oil filters.

Dufenhorst Handles Marmon

MILWAUKEE, May 27—Announcement was made during the past week of the appointment of the A. E. Dufenhorst Co., 182 Sixth Street, Milwaukee, as Marmon distributor in the Wisconsin territory. The Dufenhorst company for several years has served as Peerless distributor. The Marmon franchise for the past year has been held by the Northern Motor Sales Co., Milwaukee.

Falcon Rounding Out Organization

DETROIT, June 2—In its seventh week of production the Falcon Motors Corp. shipped its three-thousandth car, according to John A. Nichols, Jr., president, who declares that to the best of his knowledge this is a new production record for a new automobile factory.

Discussing the present and proposed production schedule, Mr. Nichols declared that the Falcon organization is not interested in establishing high production figures.

Mr. Nichols added that the Falcon-Knight dealer organization is now almost completed in the major automobile markets, and it is estimated that at the rate new dealer agreements are being written the entire market will be covered by dealer representation of a high class by the first of July. No definite production figures will be set for the month of July, as it is planned to adjust production quickly to conform with retail demands. Each week retail sales have shown an increase of about 25 per cent over the preceding week.

Perfect Circle Changes Piston Ring Markings

HAGERSTOWN, IND., May 23—The Perfect Circle Co. is now marking all standard size piston rings "Standard to .002½ Oversize." In explaining the change the Perfect Circle company calls attention to the fact that no manufacturer makes rings to a diametric tolerance of less than .002½ of an inch. Therefore rings thus marked may be no larger than a great many standard rings, and many standards are as large as rings marked .002½ oversize.

15,000,000th Ford Model T Produced

DETROIT, May 26—A unique ceremony marked the production of the fifteen millionth Ford Model T at the Highland Park plant of the Ford Motor Co., this afternoon. As the car, a touring model, came to the end of the production line, Edsel Ford climbed into the driver's seat, started the motor and with his father as a passenger headed a procession to the Ford laboratories in Dearborn, 15 miles away, where the

Now They've Got Us Doing the Darn Thing!

HERE'S something to test your knowledge of the industry. Maybe you would like to use these questions for a quiz among all the members of your organization. Ratings should be given on the basis of ten points to a question. When a question is in two parts, count five points to each part. Answers next week.

1. What two competing makes of automobiles are named after the same man?
2. (a) Who was the first president of the Ford Motor Company?
(b) Who is the present president of the Ford Motor Company?
3. Who is credited with being inventor of the pneumatic tire?
4. What automobile has model numbers indicating miles-per-hour?
5. Who uses the slogan, "A Car for Every Purse and Purpose"?
6. Who invented the first successful electric starter?
7. Name five makes of automobiles bearing the names of men no longer connected with the companies manufacturing them.
8. What is the standard tread of automobiles?
9. What achievement is said to have established Detroit as headquarters of the automobile business?
10. In the early days of the horseless carriage in America, the word "automobile" was scorned as too foreign sounding. In 1895, a contest was held to determine the name by which the new vehicle should be universally known by Americans. A prize of \$500 was offered. What word won the contest?

latest Ford met Ford car No. 1, which Henry Ford created in a little Detroit shop back in the days when he was an obscure mechanic.

Dealers to Get Outline of A.E.A. Campaign Aims

CHICAGO, June 1—M. D. Graham of the Greater Market Development staff of the Automotive Equipment Association, has been invited to present an outline of this important activity at a series of division sales congresses held by the National Automobile Dealers Association this month.

Mr. Graham will appear at the N. A. D. A. sales congresses at Salt Lake City on June 10, Los Angeles on June 14, and San Francisco on June 21.

Goldman on A.E.A. Staff

CHICAGO, June 2—Martin E. Goldman has resigned as director of sales, General Equipment Corp., and June 1 takes charge of the shop equipment division of the Greater Market Development Bureau of the Automotive Equipment Association.

U. S. Chamber Accords Pierson Unique Honor

NEW YORK, June 1—Lewis E. Pierson, new president of the United States Chamber of Commerce, is the first New York City executive to be elected to this position. Mr. Pierson is chairman of the board of the American Exchange Irving Trust Co., and has been active in the affairs of the Merchants Association of New York for many years, serving as president in 1922-23. He became president of the American Bankers Association in 1909, at the age of 39—the association's youngest president.

Among other contributions to general business and banking, Mr. Pierson was identified prominently with the development of the uniform bills of lading and banking acceptances. He also has taken active interest in the affairs of the Foreign Trade Council and more recently in the activity of the International Chamber of Commerce, being a member of the executive committee of the American section.

Iowa Association Meets

CEDAR RAPIDS, IOWA, May 28—Seventy-five members attended the quarterly session of executives and officers of the Iowa Auto Merchants Association here this week. Business meetings were held and a golf tournament was a feature of the entertainment program. D. A. Bowers, Council Bluffs, is president.

Irish Purchases Muessel

ST. PAUL, June 1—The Muessel Motor Co., one of the oldest and best known of the Ford dealers in the Northwest, through change of ownership has become the W. J. Irish Motor Co.

Price Changes and New Models in Prices and Weights Tables

Make	Model	Body Style	Old Price	New Price
Dodge Bros.	Senior 6	Sedan	New Model	\$1,595
Studebaker	Std. 6	Du-Phaeton	\$1,180	\$1,195
Studebaker	Spec. 6	Brougham	\$1,830	\$1,730
Studebaker	Big 6 (120)	Commander Victoria	\$1,645	\$1,575
Studebaker	Big 6 (127)	Du-Phaeton	\$1,810	\$1,845

Cabriolet Model on All Auburn Chassis

AUBURN, IND., May 24—Auburn Automobile Co. has started production on a new cabriolet model which it will build on all three chassis models. The price on the 6-66 model will be \$1,295, on the 8-77, \$1,595, and on the 8-88, \$2,095. With rumble seat the car has accommodations for two or three extra passengers.

The upholstery is leather. The front seat has a dividing arm rest that fits flush into the back cushion when folded back. Colors on the 6-66 are the standard moleskin and Russian brown combination. On the 8-77 a two-tone blue combination is offered, and on the 8-88 a fawn and beaver brown.

Chrysler Chiefs Hold Business Satisfactory

CINCINNATI, May 27—Officials of the Chrysler Corp. connected with the factory sales, service and advertising departments, held a series of conferences with supervisors and district salesmen, who represent the company in the central sales territory, in Cincinnati this week. The factory sales program and policies were discussed and plans formulated for cooperation of the sales executives in central territory. Satisfaction over the company's past and present business and optimism regarding the future, formed the keynote of talks by factory executives.

Will Build Vacuum Brake

NEW YORK, May 28—Albert Devandre, inventor of the vacuum brake well known in Europe, has just closed contract with the Westinghouse Air Brake Co. of Pittsburgh for production of the brake in this country.

The brake, known as Cerveau Frein, is used on 43 of the leading European cars, including Minerva, English Daimler, Mercedes and Sunbeam.

An After-Market Tip for Dealers

By DON BLANCHARD
Editor, Commercial Car Journal

ONE commercial vehicle equals two passenger cars—as a consumer of replacement parts, supplies, tires, fuels, lubricants and maintenance labor.

In 1926 average purchases of these items per commercial vehicle registration amounted to \$320 as compared with about \$160 for each passenger car. This fact has not been generally recognized because sales and registrations of commercial vehicles are only about one-eighth as large as of passenger cars, and this fact has been allowed to obscure the real importance of the market created by truck and bus operation.

Because of the huge mileage commercial vehicles cover in a year, more than one dollar must be spent for their operation and maintenance for each four dollars spent by passenger car owners although there are eight times as many passenger cars as trucks and buses.

The public now spends more money annually for operation and maintenance than for new vehicles, and dealers generally are giving an increasing amount of attention to the profitable exploitation of this after-market. In laying out sales plans designed to sell the after-market, it will pay dealers to remember that one truck customer is worth two passenger car owners.

Durant Makes Big Increase in Stock

NEW YORK, May 26—The Durant Motor Co. of New Jersey has filed with the Secretary of State an amended certificate increasing its authorized capital stock from 80,000 shares of no par common to 2,700,000 shares. Of this 2,000,000 shares are to be no par common and 700,000 shares, \$7,000,000, are to be 6 per cent cumulative preferred stock.

The charter provides that each share of common capital stock now outstanding shall have a paid-in value of \$120 a share to be exchanged for 12 shares of no par common. Holders of preferred stock when issued can exchange it up to May 1, 1928, on the basis of two shares of preferred for one share of common. After Jan. 1, 1929, preferred stock, par \$10 a share, may be redeemed by the corporation at \$12.50 a share.

978 Cars Take Road in Willys Driveaway

TOLEDO, May 27—A new record for driveaway was set at the Willys-Overland plant here last Tuesday when 978 cars, including all models of Whippet and Willys-Knight, were driven away by dealers to supply markets in seven nearby states.

The cars went to the branches of Willys-Overland, Inc., in Chicago, Indianapolis, Pittsburgh, Detroit, Cleveland, Buffalo and Elmira, N. Y., Huntington, W. Va., and Youngstown, with many into the territory covered by the big Toledo branch organization.

Gov. Fuller Gives Safety Cups

BOSTON, June 1—Governor Alvan T. Fuller, of Massachusetts, Packard distributor for eastern New England, has presented to the Massachusetts Safety Council and allied organization three silver cups which will be awarded to the cities and towns that have decreased their motor vehicle deaths and accidents between now and Nov. 1.

Johnson-Summers Has Ford

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Falcon Rounding Out Organization

DETROIT, June 2—In its seventh week of production the Falcon Motors Corp. shipped its three-thousandth car, according to John A. Nichols, Jr., president, who declares that to the best of his knowledge this is a new production record for a new automobile factory.

Discussing the present and proposed production schedule, Mr. Nichols declared that the Falcon organization is not interested in establishing high production figures.

Mr. Nichols added that the Falcon-Knight dealer organization is now almost completed in the major automobile markets, and it is estimated that at the rate new dealer agreements are being written the entire market will be covered by dealer representation of a high class by the first of July. No definite production figures will be set for the month of July, as it is planned to adjust production quickly to conform with retail demands. Each week retail sales have shown an increase of about 25 per cent over the preceding week.

Perfect Circle Changes Piston Ring Markings

HAGERSTOWN, IND., May 23—The Perfect Circle Co. is now marking all standard size piston rings "Standard to .002½ Oversize." In explaining the change the Perfect Circle company calls attention to the fact that no manufacturer makes rings to a diametric tolerance of less than .002½ of an inch. Therefore rings thus marked may be no larger than a great many standard rings, and many standards are as large as rings marked .002½ oversize.

15,000,000th Ford Model T Produced

DETROIT, May 26—A unique ceremony marked the production of the fifteen millionth Ford Model T at the Highland Park plant of the Ford Motor Co., this afternoon. As the car, a touring model, came to the end of the production line, Edsel Ford climbed into the driver's seat, started the motor and with his father as a passenger headed a procession to the Ford laboratories in Dearborn, 15 miles away, where the

Now They've Got Us Doing the Darn Thing!

HERE'S something to test your knowledge of the industry. Maybe you would like to use these questions for a quiz among all the members of your organization. Ratings should be given on the basis of ten points to a question. When a question is in two parts, count five points to each part. Answers next week.

1. What two competing makes of automobiles are named after the same man?
2. (a) Who was the first president of the Ford Motor Company?
(b) Who is the present president of the Ford Motor Company?
3. Who is credited with being inventor of the pneumatic tire?
4. What automobile has model numbers indicating miles-per-hour?
5. Who uses the slogan, "A Car for Every Purse and Purpose"?
6. Who invented the first successful electric starter?
7. Name five makes of automobiles bearing the names of men no longer connected with the companies manufacturing them.
8. What is the standard tread of automobiles?
9. What achievement is said to have established Detroit as headquarters of the automobile business?
10. In the early days of the horseless carriage in America, the word "automobile" was scorned as too foreign sounding. In 1895, a contest was held to determine the name by which the new vehicle should be universally known by Americans. A prize of \$500 was offered. What word won the contest?

latest Ford met Ford car No. 1, which Henry Ford created in a little Detroit shop back in the days when he was an obscure mechanic.

Dealers to Get Outline of A.E.A. Campaign Aims

CHICAGO, June 1—M. D. Graham of the Greater Market Development staff of the Automotive Equipment Association, has been invited to present an outline of this important activity at a series of division sales congresses held by the National Automobile Dealers Association this month.

Mr. Graham will appear at the N. A. D. A. sales congresses at Salt Lake City on June 10, Los Angeles on June 14, and San Francisco on June 21.

Goldman on A.E.A. Staff

CHICAGO, June 2—Martin E. Goldman has resigned as director of sales, General Equipment Corp., and June 1 takes charge of the shop equipment division of the Greater Market Development Bureau of the Automotive Equipment Association.

U. S. Chamber Accords

Pierson Unique Honor

NEW YORK, June 1—Lewis E. Pierson, new president of the United States Chamber of Commerce, is the first New York City executive to be elected to this position. Mr. Pierson is chairman of the board of the American Exchange Irving Trust Co., and has been active in the affairs of the Merchants Association of New York for many years, serving as president in 1922-23. He became president of the American Bankers Association in 1909, at the age of 39—the association's youngest president.

Among other contributions to general business and banking, Mr. Pierson was identified prominently with the development of the uniform bills of lading and banking acceptances. He also has taken active interest in the affairs of the Foreign Trade Council and more recently in the activity of the International Chamber of Commerce, being a member of the executive committee of the American section.

Iowa Association Meets

CEDAR RAPIDS, IOWA, May 28—Seventy-five members attended the quarterly session of executives and officers of the Iowa Auto Merchants Association here this week. Business meetings were held and a golf tournament was a feature of the entertainment program. D. A. Bowers, Council Bluffs, is president.

Irish Purchases Muessel

ST. PAUL, June 1—The Muessel Motor Co., one of the oldest and best known of the Ford dealers in the Northwest, through change of ownership has become the W. J. Irish Motor Co.

Price Changes and New Models in Prices and Weights Tables

Make	Model	Body Style	Old Price	New Price
Dodge Bros.	Senior 6	Sedan	New Model	\$1,595
Studebaker	Std. 6	Du-Phaeton	\$1,180	\$1,195
Studebaker	Spec. 6	Brougham	\$1,830	\$1,730
Studebaker	Big 6 (120)	Commander Victoria	\$1,645	\$1,575
Studebaker	Big 6 (127)	Du-Phaeton	\$1,810	\$1,845

Cabriolet Model on All Auburn Chassis

AUBURN, IND., May 24—Auburn Automobile Co. has started production on a new cabriolet model which it will build on all three chassis models. The price on the 6-66 model will be \$1,295, on the 8-77, \$1,595, and on the 8-88, \$2,095. With rumble seat the car has accommodations for two or three extra passengers.

The upholstery is leather. The front seat has a dividing arm rest that fits flush into the back cushion when folded back. Colors on the 6-66 are the standard moleskin and Russian brown combination. On the 8-77 a two-tone blue combination is offered, and on the 8-88 a fawn and beaver brown.

Chrysler Chiefs Hold Business Satisfactory

CINCINNATI, May 27—Officials of the Chrysler Corp. connected with the factory sales, service and advertising departments, held a series of conferences with supervisors and district salesmen, who represent the company in the central sales territory, in Cincinnati this week. The factory sales program and policies were discussed and plans formulated for cooperation of the sales executives in central territory. Satisfaction over the company's past and present business and optimism regarding the future, formed the keynote of talks by factory executives.

Will Build Vacuum Brake

NEW YORK, May 28—Albert Devandre, inventor of the vacuum brake well known in Europe, has just closed contract with the Westinghouse Air Brake Co. of Pittsburgh for production of the brake in this country.

The brake, known as Cerveau Frein, is used on 43 of the leading European cars, including Minerva, English Daimler, Mercedes and Sunbeam.

An After-Market Tip for Dealers

By DON BLANCHARD
Editor, Commercial Car Journal

ONE commercial vehicle equals two passenger cars—as a consumer of replacement parts, supplies, tires, fuels, lubricants and maintenance labor.

In 1926 average purchases of these items per commercial vehicle registration amounted to \$320 as compared with about \$160 for each passenger car. This fact has not been generally recognized because sales and registrations of commercial vehicles are only about one-eighth as large as of passenger cars, and this fact has been allowed to obscure the real importance of the market created by truck and bus operation.

Because of the huge mileages commercial vehicles cover in a year, more than one dollar must be spent for their operation and maintenance for each four dollars spent by passenger car owners although there are eight times as many passenger cars as trucks and buses.

The public now spends more money annually for operation and maintenance than for new vehicles, and dealers generally are giving an increasing amount of attention to the profitable exploitation of this after-market. In laying out sales plans designed to sell the after-market, it will pay dealers to remember that one truck customer is worth two passenger car owners.

Durant Makes Big Increase in Stock

NEW YORK, May 26—The Durant Motor Co. of New Jersey has filed with the Secretary of State an amended certificate increasing its authorized capital stock from 80,000 shares of no par common to 2,700,000 shares. Of this 2,000,000 shares are to be no par common and 700,000 shares, \$7,000,000, are to be 6 per cent cumulative preferred stock.

The charter provides that each share of common capital stock now outstanding shall have a paid-in value of \$120 a share to be exchanged for 12 shares of no par common. Holders of preferred stock when issued can exchange it up to May 1, 1928, on the basis of two shares of preferred for one share of common. After Jan. 1, 1929, preferred stock, par \$10 a share, may be redeemed by the corporation at \$12.50 a share.

978 Cars Take Road in Willys Driveaway

TOLEDO, May 27—A new record for driveaway was set at the Willys-Overland plant here last Tuesday when 978 cars, including all models of Whippet and Willys-Knight, were driven away by dealers to supply markets in seven nearby states.

The cars went to the branches of Willys-Overland, Inc., in Chicago, Indianapolis, Pittsburgh, Detroit, Cleveland, Buffalo and Elmira, N. Y., Huntington, W. Va., and Youngstown, with many into the territory covered by the big Toledo branch organization.

Gov. Fuller Gives Safety Cups

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Northwest Crop Prospects Good

Automobile Trade Shares Optimism of Farmers in Regard to Business

PORTLAND, ORE., May 28—While a backward spring has retarded certain crops in the Willamette valley in Oregon to the far eastern edge of the great Inland Empire in Washington, statistics recently compiled indicate that as a whole there is reason to be optimistic over the general outlook from this broad territory of the Pacific Northwest.

In some districts spring weather is 20 to 30 days behind normal. Canneries were receiving berries last year for canning on May 10, while this year it will be at least June 1 before first deliveries are made. It is believed that fruit crops will be large.

Grain prospects in the Willamette valley were never better. Fall sown wheat is making an excellent growth. The acreage is about equal to 1926. Hop growers are cultivating and stringing their yards. Exceptional prices are being offered with excellent prospects for a bumper crop.

Between Spokane and Pasco the weather has been favorable for wheat with plenty of moisture and no setbacks. Farmers are optimistic.

Cold weather has retarded the growth of all crops in Central Oregon. The grain yield is promising, but warm weather is needed. The Big Bend country is prosperous and the Ranges are reported in excellent shape.

Mittendorf Reelected

CINCINNATI, May 28—A. E. Mittendorf, president of the Ohio State Automobile Association, was reelected for the ensuing year at the closing session of the association's annual convention at Alms Hotel this week.

The association went on record favoring repeal of all war excise taxes and adopted a resolution urging proper operation of the state motor vehicle department as necessary to safety, economy and efficiency.

Hudson-Frampton Has Contest

ST. LOUIS, May 28—A special two months' sales contest among all St. Louis metropolitan Hudson-Essex dealers has been inaugurated by the Hudson-Frampton Co., R. R. Andrews, metropolitan sales manager of the company, announced.

Detroit Dealers Named

DETROIT, June 1—The Akerson Motor Sales, 12851 Woodward Avenue, has been named a Reo dealer and Arnold B. Ensley, 16425 Hamilton Boulevard, has been given a Studebaker-Erskine franchise.



JUST because I am running the Enterprise Garage here at Sparks Corners ain't no reason why anybody had ought to think I don't know my garden truck.

A guy ast me once what do I know about selling, and I told him about my checker-board career as a salesman.

"Ha, ha," says this cut-up, "you mean 'checkered.'"

"Ha, ha," says I, "I mean checker-board and nothing else but, because I am always on the move or on the jump, as you might say."

And that reminds me, maybe my first low-down had ought to be on yours truly.

I have sold Sparks' Magic Corn Cure in some of the most prominent highways and byways of this country and the land of the free across the border; I have sold the Neverslip Check Protector in most of the office buildings where agents ain't allowed, and I have sold other specialties too numberless to mention, including the world's most beautiful and powerless bus, the Halfpast Six.

A coupla years back, in and additional to being a Past Master of the Art of Getting Names on the Dotty Line, I felt the call to become a author so as, in appreciation of what I owe the world and a lotta my personal friends, I could broadcast some of my famyous hints in regards to how things had ought to be done.

It ain't hardly necessary for me to tell you I ain't none of them college bread guys—what I mean, I never had none of them four-year loafes which they hand out at them institutions of hire education—so the words of wisdom, if any, which flow from my rusty pen will be in plain U. S. language which most anybody can understand.

What I mean, when I wanta say, "Step on the gas," that's the way I say it, and not "accentuating the exhilarator" as some of them guys which went to Harvard's or Yale's universities are libel to say it.

I believe in hitting the nail on the head while it is hot, let the sparks fall where they may, so I am going to call this here colyum, "Close-ups and Low-downs." As the matter of fact the real name had ought to be "Liberty," because about the only liberty we have got left is to think what we want to. Which I am going to go it one better and say what I think. As they would say it in Persian, I am going to have *carte blanche* and you couldn't hardly expect the management to guarantee what I say, even and although they get it from "sources which they believe to be reliable."

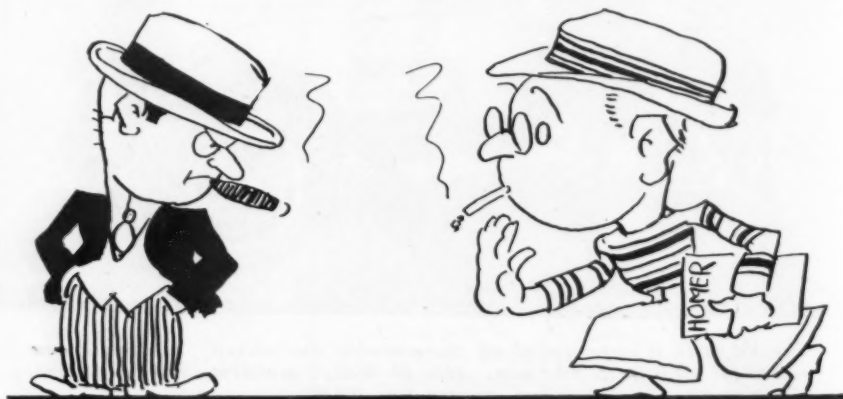
Every once and awhile some goof asts me how can he get in the automobile game, and I tell him if you think selling automobiles is a game or amusement, you are barking up the wrong tree.

Things seem to run in pairs. On one hand you have those which wanta get in a thing and on the contrary hand those which wanta get out. A lotta automobile dealers which found a way to get in are sometimes wondering how they are coming out.

I mind the first time I tried to sell a bus. I walks in on a guy and says, "Good evening, Mr. Pickelwartz, I represent the Halfpast Six Motor Car Company."

"Well," shouts Mister Pickelwartz, "that ain't no fault of mine."

So I changed my approach, about which more anon, as they say in the movies.



Much Mechanical Trouble at Race

(Continued from page 9)

number of mechanical troubles encountered by the 33 cars which started in the fifteenth Indianapolis race on Memorial Day.

The very things that have produced the speed ability of the 91½ cu. in. cars were chiefly responsible for failures.

Of the 21 cars that were eliminated, four were put out of commission by definite failure of the supercharger drive mechanism. Two other cars, Schneider's Miller and Hartz's Erskine-Miller, were forced out by broken timing gears and a broken crankshaft key respectively, and it is probable that, in at least one of these two cases, the supercharger drive assembly was indirectly responsible.

Next to supercharger and timing gear troubles, which took a toll of five cars, came failure of the rear axle and driveshaft parts. Four cars were eliminated by failure at these points, one of them being No. 24 Perfect Circle Duesenberg, which was forced out by broken axle drive gears when five miles from the finish and in second position. The Miller Special driven by Bauman was forced out by similar trouble at a time while holding the lead.

The condition of the track played a large part in sending three cars permanently to the pits with leaking gasoline tanks. Two of these cars, the Millers of Batten and Duray were set afire from this cause, Batten narrowly escaped by jumping.

Lockhart led until eliminated at the

300-mile mark by a broken connecting rod. This and Shattuck's broken valve were the only mechanical failures attributable to the engine proper.

Aside from frequent replacement of plugs, there was no ignition trouble. It is apparent that chassis parts, especially those of the front axle and power transmitting mechanism, need greater factors of safety to withstand high speeds on tracks of this type.

A more thorough study of the problem of a reliable supercharger drive, able to withstand frequent decelerations, is also imperative. In the past there have been some failures of the supercharger impeller, but the recent use of ribbed and heavier casings of bronze instead of aluminum, has almost entirely eliminated trouble at this point. The new casings and impellers have made it possible to raise the pressures at the engine inlet to as high as 28 lb. per sq. in., absolute.

Cars finishing in the money and not troubled with blower failure in most cases were fitted with balanced step-up assemblies having gears of wider face than last year.

Of the 33 cars starting, 21 were eliminated either by driving accidents or by mechanical troubles. There were a total of 110 pit stops, and the unusual number of 49 reliefs were made, these 49 being confined to 18 cars.

The following gives the chronological order of the eliminations, their causes and the name of the driver at the time the cars were put out of commission:

Lap 21—No. 7 Miller, Lewis, broken spring pad on front axle.
Lap 22—No. 22 Boyle Valve Special, Petticord, broken supercharger.

Lap 24—No. 8 Miller Special, Batten, car caught fire.

Lap 25—No. 18 Cooper Special, Ellingboe, hit wall on north turn.

Lap 26—No. 12 Perfect Circle Miller, Duray, broken gas tank, caught fire.

Lap 26—No. 4 Cooper Special, Hill, frozen shackle bolt.

Lap 31—No. 3 Perfect Circle Miller, DePaolo, broken supercharger gears.

Lap 38—No. 1 Erskine-Miller, Hartz, broken crankshaft key.

Lap 40—No. 19 Boyle Valve Special, Hepburn, leaking gas tank.

Lap 48—No. 23 Elgin Piston Pin Special, Kohlert, hit wall at south turn.

Lap 83—No. 17 Miller Special, Shattuck, broken valve and cylinder.

Lap 87—No. 35 Elcar Special, Burbach, broken universal joint.

Lap 91—No. 26 Miller, Bauman, broken pinion shaft.

Lap 108—No. 15—Boyle Valve Special, Woodbury, broken supercharger.

Lap 120—No. 2 Perfect Circle Miller, Lockhart, broken connecting rod.

Lap 123—No. 9 Cooper Special, Kries, broken front axle.

Lap 137—No. 43 Miller Special, Bauman, broken timing gears.

Lap 145—No. 44 Miller Special, Lecklider, broken supercharger.

Lap 151—No. 41 Thompson Valve Duesenberg, Winnai, hit wall, caught fire.

Lap 198—No. 24 Perfect Circle Duesenberg, Stapp, broken rear axle drive gears.

John Cleary says—

☞ *Selling goods or service at a profit—that's salesmanship.*

☞ *Selling 'em at a net profit—that's merchandising. There's a difference.*

☞ *Good merchandising means cutting down the margin between gross profit and net profit.*

☞ *The better the merchandising, the smaller the margin between gross and net.*

☞ *Spread the net, boys, and save more of that gross.*

Spills and Thrills at

*Fifteenth Annual International Sweepstakes Grinds
Itself Into Past History Amid Spectacular and
Dramatic Scenes That Make 150,000 Gasp*

(Continued from page 9)

In today's race dramatic incidents came one after another. Combining thrills and spectacular demonstration with tragedy in a way that no doubt affected the drivers and had something to do with slowing the pace down from the peak of around 105 m.p.h. that was being registered in the early laps by the leaders.

The first spectacular incident, which brought injury to a courageous driver and thrilled the 150,000 spectators with admiration, was the burning of Norman Batten's Miller Special.

Coming down the straightaway in front of the grandstands at better than 100 m.p.h., the gasoline tank caught fire and flames trailed for 10 or 15 ft. behind the roaring vehicle.

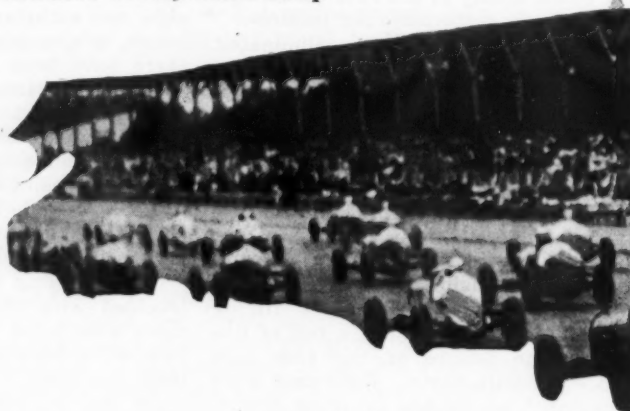
Not until he neared the south end of the pits did the car slow down enough for him to jump.

A little later as a group of bunched cars approached the south turn, Henry Kohlert rode high upon the bank and tangled wheels with the Miller Special car driven by Cliff Bergere. Kohlert's car turned over, rolling down the bank and leaving the driver lying in the middle of the track. Kohlert was carried off the track and was taken to the hospital suffering from serious injuries. Bergere's car continued in the race.

When in its twenty-fourth lap, the front-drive Cooper Special, driven by Jules Ellingboe, hit the wall on the north turn and was wrecked. The driver was so seriously injured that he was taken to the hospital as quickly as possible. Although there were other instances of failure of cars at critical times, not until near the finish was the height of the dramatic reached.

After battling gamely against odds, the two Duesenbergs, No. 32 and No. 24, had attained first and second places respectively. With a three-lap lead over No. 24, No. 32 had just been given the checkered flag announcing

Cars! Cars! Cars!



it had finished when No. 24 started its one hundred and ninety-eighth lap, apparently certain of second place, being four laps ahead of its nearest competitor.

But as it came around to finish the lap, with Babe Stapp at the wheel, it was slowing down. The Pitt crew urged Stapp to continue, but he could not. His rear axle gear drive was broken and the second prize was snatched from his hands, with only two laps to go.

Frank Lockhart, the young star and surprise of a year ago, who has since proved his mettle on other tracks, was the undisputed leader for 81 laps until he had to stop to refuel. Although he lost the lead, he soon regained it and held it until his one hundred and nineteenth lap, when his car, a Miller Special No. 2, went out with a broken connecting rod. He won \$10,900 of lap prizes, the award being \$100 for the winner of each of the 200 laps.

Charles Bauman, another dirt track youngster, who took the lead when Lockhart made his pit stop, held it for 10 laps, winning \$1,000 in prize money, but after his ninety-first lap he met misfortune, breaking a pinion gear in the rear axle.

The next car to bask in the temporary glory of a prospective winner was the Cooper Special, No. 14 started by Bob McDonogh, and later wheeled by Pete DePaolo whose own Miller had dropped out in its thirty-first lap. McDonogh had kept his car well up in the front rank and when Lockhart went out he was in second place ready to grab the lead. DePaolo relieved him as driver and held the car in front for thirty laps, winning \$3,000 in lap prize money. Then at about 350 miles the engine in No. 14 began acting erratically, spitting and coughing. It kept pegging along and was able to finish in the money by reason of the good start that it had.

It was after No. 14 slowed down that George Souders' Duesenberg forged to the front and soon gained its invincible lead. This car made no stop until 400 miles on its way, and then, with a safe margin over its companion Duesenberg, which was No. 24, Souders wisely brought it into the pit for gasoline, oil, water and a change of tires.

The cars in the order in which they lined up for the start and their drivers, were:

Indianapolis!



Car	Driver	Car	Driver
Perf. Cir. Miller Spec.	Lockhart	Miller Special	Hearne
Perf. Cir. Miller Fr. Dr.	De Paolo	Jynx Special	Shaw
Miller Spec. Fr. Dr.	Duray	Miller Special	Melcher
Erskine Miller Fr. Dr.	Hartz	Cooper Spec. Fr. Dr.	Ellingboe
Boyle Valve Spec.	Hepburn	Duesenberg Spec.	Souders
Boyle Valve Spec.	Woodbury	Miller Special	Schneider
Cooper Spec. Fr. Dr.	McDonogh	Duesenberg Spec.	Stapp
Miller Spec. Fr. Dr.	Lewis	Detroit Spec. Fr. Dr.	Milton
Cooper Spec. Fr. Dr.	Hill	Th'ps'n V've Duesenberg	Morton
Miller Special	Batten	Miller Special	Gulotta
Boyle Valve Spec.	Petticoord	Duesenberg Spec.	Evans
Cooper Spec. Fr. Dr.	Kreis	Miller Special	Cotey
Junior 8 Spec. Fr. Dr.	Elliott	Elgin P't'n Pin Spec.	Leckleider
Miller Special	Bergere	Nickel Plate Special	Hill
Miller Special	Devore	Perf. Cir. Duesenb'g	Shoaff
Miller Special	Shattuck	Miller Special	Frane
Miller Special	Bauman		

Mechanical Specifications of Winning Car

Cylinder castings were made by the Indianapolis Foundry Co.

Aluminum alloy crankcase castings furnished by Aluminum Co. of America.

Chrome molybdenum steel was used by Union Drawn-Steel Co. for the crankshaft forging. The front and rear crankshaft bearings were of the ball type and manufactured by New Departure, as were also all other ball bearings used in the car, with the exception of Norma-Hoffmann ball bearings in the supercharger.

Chrome molybdenum steel was also used for the connecting rods, which were fitted with piston pins manufactured by Reed-Waite, these bearing directly in "Magnalite" pistons manufactured by the Walker M. Levett Co. Perfect Circle piston rings were used.

S. A. E. No. 1020 low carbon steel used in the camshaft manufactured by the Muskegon Motor Specialties Co. The camshaft was supported in aluminum alloy bushings supplied by the Aluminum Co. of America.

Thompson Products silchrome valves were used for both inlet and exhaust, both being fitted with Cleveland Wire & Spring Co. valve springs.

Camshaft drive gears by the Duesenberg Co. were of 5 per cent nickel steel. The water pump and super-

charger were also of Duesenberg make.

Radiator core was a Fedders-U.S. Cartridge, and the radiator was fitted with a Moto Meter temperature indicator.

Winfield carburetor, Delco ignition, Exide battery, Champion spark plugs, U. S. oil pressure gage and AC tachometer were other units used.

Multibestos clutch lining was used on the Duesenberg-made clutch. The transmission also was of Duesenberg manufacture, and had 5 per cent nickel, case-hardened gears and 3½ per cent nickel shafts.

Climax fabric universal joints were used, in conjunction with a 3½ per cent nickel steel propeller shaft by Duesenberg.

Chrome nickel steel axle shafts were supplied by the U. S. Axle Co. The International Tool Co. manufactured the gears, Duesenberg the differential.

As usual, Rudge wheels and rims with Firestone balloon tires were used.

The front axle was of 3½ per cent nickel steel and made by the Duesenberg Co.

Front and rear springs were by the Spring Perch Co., and were mounted in Mack shock insulators, Hartford shock absorbers being used.

Brakes were of Duesenberg design, lined with Asawco fabric lining. The Ross cam-and-lever steering gear was manufactured to Duesenberg specifications, and other units of the steering mechanism, such as the drag link and steering wheel, were of Duesenberg make.

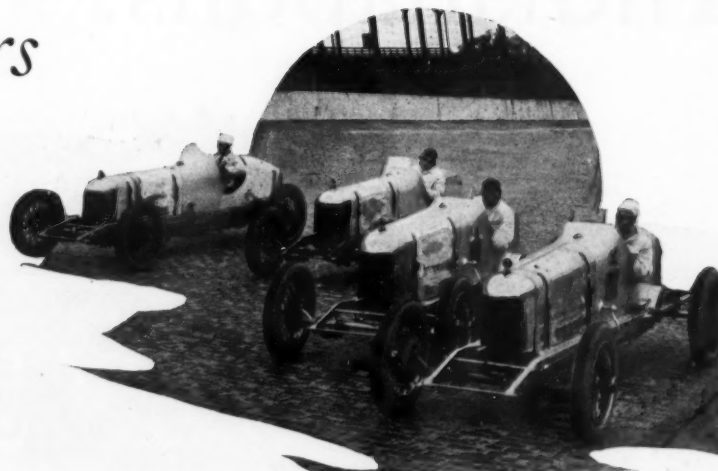
Frames also were by Duesenberg manufacture, duralumin and wood being used.

Throughout the test, the car was run on Richfield gasoline and Richlube oil, the latter also a product of the Richfield Co.

Improvements Made in 91½ cu. in. Racers Since Last Year

Inverted Carburetor, High Pressure Blower, New Inlet Manifolds and Lowered Center of Gravity Outstanding Speed-Increasing Developments

By Paul Dumas



OBSERVED in their garages while at rest, the 1927 models of the 91½ in. racing cars are the merest duplicates of those of 1926. Even a hasty glance under the hoods and the impression remains. But observe them in action with a stop watch and the chances are you will ask who inserted the dynamite and where.

For the 1927 91½ in. racing car is the fastest piece of machinery that ever graced the rubber-trod bricks of the Indianapolis Motor Speedway. There has been a year of development—a year of development that doesn't register externally to the eye but which is evident in performance and on close examination. And it is likely, when the story of the 1927 race is told over the drafting board, that there will be much talk about how the inverted carburetor and the higher pressure blower and the new inlet manifolds made possible such engine speeds as 7800 r.p.m. These and the lowered center of gravity attained with even the rear-wheel drive cars have been the outstanding speed-increasing developments of the year.

There are approximately 36 cars that constitute the real field, and of these it is singular to note that all are American built and of the eight-cylinder-in-line type. Of these 36 cars the offset type Duesenbergs (Perfect Circle Duesenberg and Thompson Valve Specials) are the only outstandingly new chassis creations. These new jobs, which are characterized by an extremely low center of gravity, compare favorably with the front-drive jobs in the matter of overall height and are decidedly lower than other rear-wheel drive cars.

Attaining Low Construction

As will be seen in the accompanying illustrations, the unusually low construction is attained by placing the front end of the engine at approximately the right front corner formed by the frame side rails and cross member rectangle, and carrying the power drive line aft toward the diagonal corner of the frame to the differential, located adjacent to the left rear wheel. With this disposition of the units a line drawn parallel to the engine crankshaft and propeller shaft would form an approximate diagonal with respect to the longitudinal center line of the frame. This layout of itself does not permit of any noticeable lowering of the car but it does allow placing the driver's seat alongside the propeller shaft instead of over it, with the result that the "from the hips down" portion of the driver's body is well below the top surface of the frame side rails. To further

enhance the cornering ability of the vehicle the entire frame assembly is offset on the axles, the former being 2½ in. closer to the wheels on the left side.

Although the engine of the diagonal offset Duesenberg is substantially the same as last year some few changes have been made in the cylinder blocks, mainly in the relative positions of the angularly mounted valves. On the new engines the total angle between inlet and exhaust valve stems of the same cylinder has been increased so as to prevent pocketing in the combustion chamber. The contour of the inlet passages has also been altered slightly and these two changes in combination with improvements made in the supercharger have brought about a 700 r.p.m. increase in crankshaft speed. The piston pin retaining method has been changed from a thin wide ring encompassing the piston skirt to a system of inserted soft metal plugs in the piston pin ends. The crankshaft is slightly lighter than last year and the main bearing journal diameter has been reduced from 2 to 1⅝ in. To accommodate the angular drive line the engine bell housing legs have been changed, the one on the right being considerably longer than the left, but with these exceptions the engines are duplicates of those used last year.

External details of the three-quarter floating rear axle assembly are illustrated on page 24.

The long right-hand tube is machined from a chrome nickel forging flared at its inner end to engage the recessed face of the Lynite differential housing. Through bolts pass through the differential housing and serve to tie it on one side to the right-hand steel tube and on the other to the cast Lynite left-hand tube of the assembly. It will be noted that the pinion shaft enters the axle at an angle and to compensate for this the pinion and ring gear are cut on a pitch line of corresponding angle.

The other Duesenbergs, driven by Evans, Corum and Hauser, are 1926 models with slight supercharger and inlet manifold changes.

The Cooper Specials are revised Miller front-drive cars reconstructed under the direction of Earl Cooper, who has incorporated several features of his own. The main components of the Miller engine have been retained, and externally the clutch, rear and front axles appear unchanged. Revisions made on the original Miller design, as announced by Earl Cooper, include a supercharger of greater output and inlet manifolds designed to give better volumetric efficiency by reducing the tem-

Mechanical Specifications of 1927 Indianapolis Race Cars

CAR	ENGINE														SUPERCHARGER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	NO. CYLINDERS		VALVES		PISTONS			PISTON PIN		CRANK SHAFT						COMPRESSION RATIO		POINT SUSPENSION		R.P.M. AT MAX		USED		TYPE		SPEED RATIO COMPARED WITH ENGINE		HOW DRIVEN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
	BORE (INCHES)	STROKE (INCHES)	FIRING ORDER	TYPE OF HEAD	NO. CASTINGS	NO. PER CYLINDER	TIMING	MATERIAL	MATERIAL	LENGTH (INS)	NO. RINGS	WIDTH OF RINGS	DIAMETER	BEARING (WHERE)	MATERIAL	LENGTH C.T.C.	COUNTERBALANCES USED	NUMBER	DIAMETER	LENGTH	DIAMETER	REAR INTERM.	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK PIN	LENGTH	DIAMETER	CRK 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CAR	CARBURETOR		IGNITION		CLUTCH		TRANSMISSION		NO. FORWARD SPEEDS		UNIVERSALS		REAR AXLE		PROPELLER SHAFT		BRAKES				STEERING		SPRINGS				FRAME		WHEELS			
	MAKE & NO.	NOMINAL SIZE (IN.)	MAKE	CURRENT SOURCE	NO. DRIVEN DISCS	WHERE LOCATED	NO. FORWARD SPEEDS	MAKE & TYPE	FRONT DRIVE AXLES	TYPE	GEAR RATIO	TIRE SIZE	UNIVERSALS	TYPE	TRAILING	30X5	SERVICE		EMERG.		MAKE OF LINING	FRONT AXLE	CASTER ANGLE	TYPE	MAKE	TYPE	LENGTH & WIDTH	REAR	MATERIAL	MAKE	TYPE	
																	LOCATION	TYPE	LOCATION	TYPE												
COOPER SPL	WINFIELD (1)	1 1/2	ROBERT BOSCH	MAGNETO	5	FRONT	2	WEISS	TRAILING	4 1/2	30X5							BENDIX TRAILS MECH. 30X5	REAR FANT BENDIX 30X5	MAKE OF LINING	6°			CAM & CENTER	1/4" ELLIP.	1 1/2" x 1 1/2"	1/4" ELLIP.	3 1/2" x 1 1/2"	GENIE ALLOY	COOPER	WIRE RUDGE	100"
DOESENBERG	WINFIELD (1)	1 1/2	DELCO EXIDE BATTERY		2	OH ENGINE	3		3/4" FLOATING	11	48	30X5	UNIVERSAL PRODUCE CO.	HYD. FEAR WHEELS						ASAHI CO	6 1/2°			PUESENBERG ROSS-CAM	3 1/2" x 2"	SEMI ELLIP.	36X2	DURAL	OWN	WIRE RUDGE	100"	
PERFECT CIRCLE	"(1)	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
DOESENBERG	WILLER (1)	1 1/2	ROBERT BOSCH	mag.	.3	FRONT	3	MILLER METAL	TRAILING	4 1/2	30X5	OWN METAL	Int. Mech.	"	Int.					Int. F. whl	OWN	5		OWN Worm & whl.	1 1/2" x 1 1/2"	ELLIP.	33	Chrm	OWN	"	"	
1926 MILLERS	MILLER (1)	1 1/2	ROBERT BOSCH	mag.	5	On engine	3		SEMI float			30X5		"	Int.					Int.	OWN	"		"	"	SEMI	32	ELLIP.	39	"	"	
1926 model	WINPI (1)	1 1/2	ROBERT BOSCH	mag.		"	"	CLIMAX fabric	3/4" float	45	11	"	CLIMAX fabric	HYD. Int. wheel	REAR wheel	EX. MECH. TRAN.				ASAHI CO.	"	"		PUESENBERG ROSS-CAM	3 1/2" x 2"	ELLIP.	36	DURA	OWN	"	"	
DOESENBERG	ELDN		DELCO BATTERY		"	"	"		TRAILING	11	"	"		Int. wheel	REAR wheel	Int. wheel				Int. wheel	OWN	"		"	"	SEMI	32	ELLIP.	36	OWN	"	"
DETROIT SPL.	ROBERT		Bosch	mag.		FRONT	2		TRAILING		"	"		Int. wheel	REAR wheel	Int. wheel				Int. wheel	OWN	"		"	"	SEMI	32	ELLIP.	36	OWN	"	"
FRONT drive			Bosch																													
BOYLE VALVE SPECIALS																																
	Specifications same as 1927 model rear drive Millers except that laminated head Boyle valves are used																															

1927 MODEL REAR DRIVE MILLERS HAVE SAME ENGINE SPECIFICATIONS AS

FRONT DRIVE MODELS. THE PERFECT CIRCLE REAR DRIVE MILLER DRIVEN BY FRANK LOCKHART HAS SPECIAL SUPERCHARGER, REAR AXLE RADIUS RODS, INJECT MANIFOLD, AND OILING SYSTEM.

* SOME CARS WERE EQUIPPED WITH DAYTON WHEELS

ANY CAR STARTING BUT NOT LISTED ABOVE IS A MILLER BUILT VEHICLE REGARDLESS OF THE NAME UNDER WHICH IT IS ENTERED.

perature of the mixture. Interior dimensions of the engine parts have not been changed but there has been a change in material specifications in several cases. The pistons are die cast Bohnalite, and crankshafts, connecting rods and camshafts are made from material supplied by the Central Alloy Steel Co. Changes have been made in the clutch, which is now of the multiple disk type incorporating five driven disks.

Front-wheel drive layout changes include the substitution of Weiss metallic uniform velocity type joints at the front wheel driveshafts and the use of a special Ruckstell semi-planetary two-speed gearset in place of the regular Miller sliding gear assembly. Revisions in the braking system include the use of four wheel Bendix internal brakes mechanically operated. The rear wheel brakes are connected to the service foot pedal while the fronts, which function as the emergency brakes, are connected to the hand lever. Front spring suspension is the same as originally built by Miller but the steering has been changed by substituting a Gemmer Marles cam type gear. These cars are provided with bodies designed by Cooper and his able corps of drivers: Hill, McDonogh and Kries. Cockpits are very comfortably cushioned and support for the driver's neck is provided by an extension on the seat bulkhead which forms a streamlined head rest.

The Detroit Special, to which Cliff Durant is assigned as driver, is built around a Miller front-drive chassis. Like the Cooper Specials it has been built, prepared and tuned behind closed doors, under the supervision of men of very wide experience. It is rumored that the car was rebuilt in Detroit after the joint designs of Tom Milton, twice winner of the Indianapolis race, and Dr. Moss, supercharge expert of the General Electric Co. These two men are to be seen daily at work on the car, which is quartered in one of the larger garages at the track. Due most likely to the many last minute obsessing details incident to preparing a new car for competition, the writer was not permitted even a cursory examination of the vehicle. From what could be learned by

furtive glances through a partly opened window and other sources, it is probably safe to state that the car is featured by a large-sized, two-stage supercharger of Moss design provided with an intercooler and pressure relief valves. The supercharger, said to be of the centrifugal type, is driven from the front end of the crankshaft through a train of spur gears.

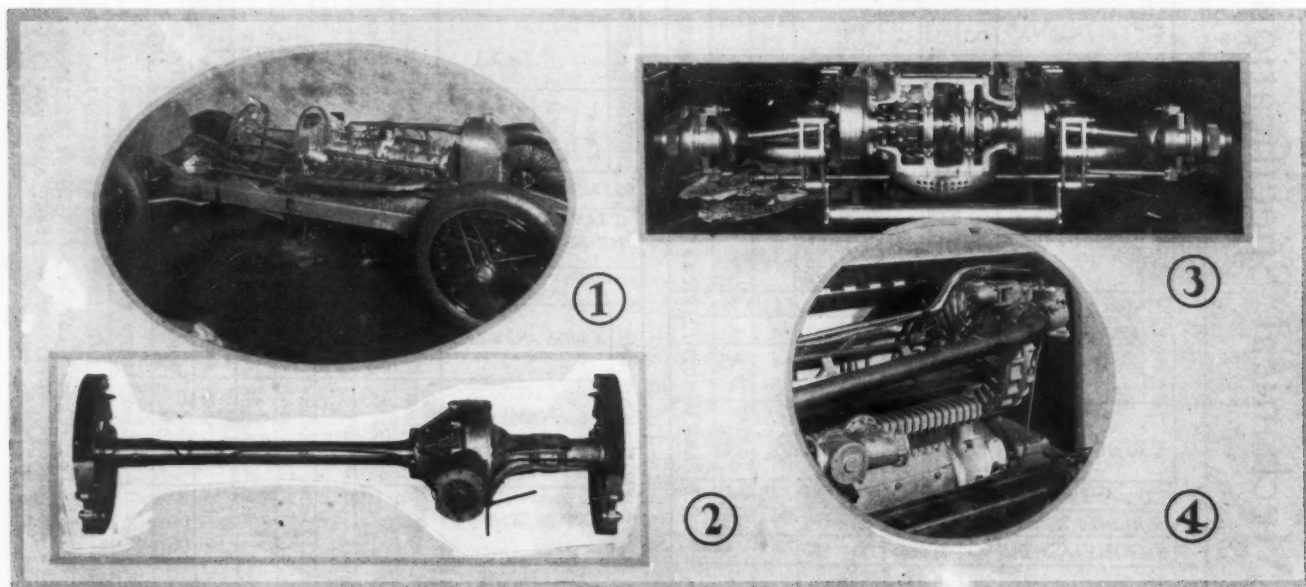
Instead of a single eight-cylinder magneto operating at crankshaft speed this engine is fitted with two modified eight-cylinder Robert Bosch magnetos, each supplying four cylinders and operating at camshaft speed. The front-drive transmission and differential unit are said to be of unique design, permitting a change of drive ratio gears in less than half an hour. Some changes have been made in the original Miller valve action although the conventional tappet cup elements are retained. The gasoline and oil tank construction incorporate changes suggested by Milton and the body has been altered to meet his ideas of comfort.

It is said that more than \$29,000 has been expended in the construction and reconstruction of this car, which may be campaigned in European events this summer.

Perhaps the most thorough and workmanlike job of revising a rear-wheel drive type Miller car is seen in the Perfect Circle Miller driven by Frank Lockhart. Although classed as a young race car chauffeur with a penchant for heavy footwear, Lockhart would find no difficulty in qualifying as an experimental engineer.










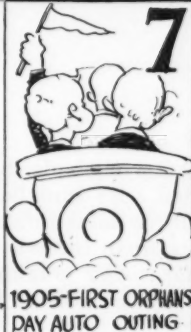








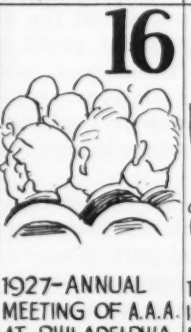
















It is said that Lockhart's engine with his revisions develops in excess of 170 hp.

Of the remaining cars practically all of them are Miller products even though raced under a variety of different names. These include the Elgin Piston Pin Special, Jynx Special, Jones Whitaker Special, Elcar Special, Burt Special, Nickel Plate Special and Boyle Valve Special. Three of the last named cars are entered as a team captained by Cliff Woodbury of dirt track fame. These cars, as is well known, are stock Miller creations except that the engines are equipped with the flat seat laminated head valves of Boyle make.



1. One of the two new offset Duesenberg cars. This one is the Thompson Valve Special. Note that the front end of the engine is close to the right side rail and that the differential is at the left of the car. This permits a lower position for the driver. 2. The rear axle from one of the offset Duesenbergs. The pinion and ring gear are specially made to accommodate the angle of the pinion shaft. The left axle tube is integral with the left side of the differential case and is made of Lynite. 3. Duray's front drive Miller showing internal parts. Note the novel pivot pin and knuckle construction and the universals. 4. Two stage General Electric blower operating in conjunction with inverted type carburetor. Notice the pressure relief valve on the blower casing.

The Month of JUNE in Motor Age

			1  <p>1849-F.E. AND F.O. STANLEY-STEAM CAR TWINS- BORN AT KINGSFIELD, ME.</p>	2  <p>1927-FIRST COPY OF MOTOR AGE FROM PHILADELPHIA</p>	3  <p>1924-JOE FIELDS ELECTED VICE-PRESIDENT OF CHRYSLER</p>	4  <p>1900-FIRST 4 TON TRUCK BUILT IN U.S.A. CARRIED A CARGO OF CHAMPAGNE IN NEW YORK</p>
5  <p>1915-FORD DIVIDED A JUICY MELON AMONG 8 STOCKHOLDERS</p>	6  <p>1927-BRIGHT DOING AT THE CONVENTION MILLION DOLLAR PIER ATLANTIC CITY</p>	7  <p>1905-FIRST ORPHANS DAY AUTO OUTING</p>	8  <p>1900-FIRST SUIT BROUGHT FOR INFRINGEMENT OF SELDEN PATENT</p>	9  <p>1923-GEQ. M. GRAHAM LAUDS TRADE PRESS TO A.A.C.W. AT ATLANTIC CITY</p>	10  <p>1900-F.B. STEARNS RIDES IN HIS FIRST CAR</p>	11  <p>1927-SPEED DEMONS MEET AT ALTOONA PA.</p>
12  <p>1900-PEDESTRIANS IN PHILLY SET AN AUTO SPEED LIMIT</p>	13  <p>1923-PACKARD ANNOUNCES A SINGLE EIGHT</p>	14  <p>1910-REO GOES INTO THE SPEED WAGON FIELD</p>	15  <p>H.M. SWETLAND DIED</p>	16  <p>1927-ANNUAL MEETING OF A.A.A. AT PHILADELPHIA</p>	17  <p>1899-LOCOMOBILE INCORPORATED TO MAKE STEAM CARS</p>	18  <p>1917-R.H. COLLINS ELECTED PRESIDENT OF CADILLAC</p>
19  <p>1926-AUBURN INCREASES DIVIDENDS</p>	20  <p>1925-MOTOR BUS ASSN. FORMED AT CHICAGO</p>	21  <p>1904-BARNEY OLDFIELD JOINS PEERLESS AS RACE DRIVER</p>	22  <p>1914-THOMAS H. WHITE DIED</p>	23  <p>1900-FRANKLIN STARTS AIR COOLED MOTOR MANUFACTURING</p>	24  <p>1924-JORDAN ANNOUNCES GREAT LINE EIGHT</p>	25  <p>1927-RACE MEET SALEM, N.H.</p>
26  <p>1915-GAS ALMOST GRATIS IN PRICE WAR AT ST. LOUIS</p>	27  <p>1927-A.E.A. SUMMER CONVENTION PORTLAND, ORE</p>	28  <p>1924-AL. REEVES SAILS FOR EUROPE ON FRIENDSHIP MISSION</p>	29  <p>1900-YACHTING CAPS WITH GLAZED PEAKS PROPER TOGS FOR MOTORING</p>	30  <p>1910-RAY McNAMARA WON GLIDDEN TOUR IN PREMIER</p>		

The ABC of Dealer

YOU cannot be a merchandiser unless you use sales promotion. To promote means to move forward something in its course. Sales promotion, then, means any effort you use in moving forward your sales. Merchandising consists in putting forth efforts to move forward your sales. If you put forth no such effort, you cannot be a merchandiser. Therefore you cannot be a merchandiser unless you use sales promotion.

*Promoting the Movement of Mer-
Personal Job. There is Far More
the Boys to Make up a Mailing
Them Form Letters and
Often. What Really
tion? This Article
hensive*

By John

THE foregoing sounds like one of those things that everybody knows, an obvious fact, a self-evident truth, a truism. It is like the principle that two and two make four; that a straight line is the shortest distance between two points.

Why fill up good white space with it, then, if everybody knows it already?

For the good and sufficient reason that the difference between success and failure, between profit and loss, whether in the professions or in business, usually lies in the circumstance whether the lawyer or the doctor or the merchant put into practice or neglected to put into practice these simple, elementary things that everybody knows.

Sales promotion has probably reached a higher point of development in the automobile business than in any other business. It is an integral part of every successful manufacturer's plan to increase profitable volume, as it should be of every distributor's and every dealer's program.

But, after all, what is the average dealer's conception of sales promotion?

What is your conception of it?

Don't you think of it as just so many form letters or pieces of advertising literature, carrying your imprint, and mailed out at intervals to your prospects?

And don't you think you have done your job, as far as your sales promotion program is concerned, when you have compiled your mailing list—with more or less thoroughness—sent it to your factory or distributor, and then paid the bill at so much per piece per mailing?

Why, man, you have only started.

The circularization of your prospects is only a part of your job. An important part, it is true, but if sales promotion began and ended there, it would not be the vital and resultful element in our business that it has become.

Sales promotion, in its broadest sense, means much more than that.

Sales promotion means anything that increases your profitable sales. And don't forget that highly essential word "profitable."

A proper plan of sales promotion will help you—

- a. Before the sale, by helping to find the prospect and to interest him;
- b. During the actual sale, by helping to close it;

c. After the sale, by helping to make your customer satisfied. He thus becomes the best kind of a prospect for future sales himself, and also your best advertiser and salesman for sales to his friends, relatives, business associates and neighbors.

Let us see how this works out in the case of a car dealer.

BEFORE THE SALE

YOU can start off with the idea that there is certain number of people in your territory who can afford to buy your car.

What you want to do is to reach as many of those people as possible—all of them, if you can—and get them to thinking favorably of your car, as one they would like to own, and get them to thinking favorably of you as a merchant with whom they would like to do business.

Once create a good reputation for your car and yourself, and you won't have to worry about sales. You'll get more than your proportionate share of them in your community.

But how to find these people and get them to thinking the way you want them to think?

Your first and most important move is to make contact with them through your present owners. But that is a form of sales promotion which comes after the sale, and will be treated in its proper sequence in this analysis. We shall assume that you are handling an entirely new car, that there are no owners in your territory and that you want to build a business for years to come.

The first factor working to reach these people is your factory's national advertising—whether that is done in the general magazines or in the newspapers circulating in your territory and in the other territories where the car has distributor or dealer representation.

If your factory has a cooperative plan covering advertising in the newspapers, it would be well for you to avail yourself of it. It identifies you as the local merchant handling this nationally advertised product, and helps to increase whatever benefit may come to you from this national advertising.

But, come to think of it, all this national advertising and newspaper advertising is scattered shot. It is aimed at everybody in your community. But you cannot depend on this kind of luck to build a highly profitable business. You must try to find the people in your

Sales Promotion

*chandise Has Got to Be a Thorough
to It Than Merely Getting One of
List of Prospects and Sending
Other Literature Every so
Constitutes Sales Promo-
is the Compre-
Answer*

Cleary

community who are likely prospects and bombard them direct. That's where direct mail and the other elements of sales promotion come in.

The first job in direct mail is your list of prospects. The success of any direct-mail campaign depends on the care and accuracy with which the list is compiled. This does not mean that you must insist on 100 per cent perfection in your list. If you waited for that before starting your direct-mail campaign, you would never start. No such list has ever been built.

Of course, the compilation of such a list is simplified for the dealer in the smaller community. He knows all his prospects. The larger the territory the more difficult the job. But even in the largest cities, direct-mail campaigns have been conducted—and are being conducted—successfully by good automobile merchants who work constantly on their lists.

In direct-mail campaigns, as in newspaper advertising, you will find it to your advantage to cooperate with the factory if the factory has a cooperative campaign in operation. It will be better material than you can buy in your home town, and its cost to you ought to be lower than even inferior mailing pieces prepared by the local printer.

If your factory has no such plan in operation, that should not keep you from running your own direct-mail campaign. If you feel that you cannot find the time to do it right yourself, or that somebody else could do a better job for you, it is almost a certainty that you could find in your own community some young fellow—or some young woman—who could do a highly satisfactory job for you.

And now your sales promotion has just begun.

A direct mail campaign does not sell automobiles, any more than newspaper or magazine advertising.

Leastways, not nowadays.

Eddie Collins once said that the best way for a ballplayer to make a run was to get on first base. That is the objective point. He cannot get home unless he safely reaches what sporting writers call the initial sack.

That statement might be paraphrased by saying that a good way to sell one of your automobiles is to get the prospect into your store—or, better still—into your car.

Your advertising and your direct mail may bring

GET on first base first!

Eddie Collins once said that the best way for a ballplayer to make a run was to get on first base. That is the objective point. He cannot get home unless he safely reaches what sporting writers call the initial sack. That statement might be paraphrased by saying that a good way to sell one of your automobiles is to get the prospect into your store, or better still, into your car.

some of your prospects to first base, but you will have to rely on more activity to get any number of them there.

Your direct mail must be followed up. You can do this in a number of ways.

The first and most obvious method is to make contact with every person receiving your direct mail matter. If you have no salesmen you should plan to call on a certain number of these prospects every day, devoting a part of every day in the week to this work. If you have one or more salesmen, you should divide the calls and insist that a report be made on each call.

One call seldom makes a sale. So this call should be followed immediately by a letter to the prospect from the man who made the contact, either yourself or a salesman.

This first letter may be only a gracious acknowledgment of the prospect's courtesy in giving the interview. It may be a few paragraphs emphasizing a point that seemed to impress the prospect during the talk. If there were two or more such points, it may be well not to try to squeeze them in a single letter, but rather to devote a separate letter to each one. Or, again, this first letter may be devoted to answering an objection raised by the prospect.

After you have done this a little while, you will have accumulated a series of paragraphs covering good points in favor of your car and answers to possible objections, thus making it almost a routine matter to handle these follow-up letters. But, in no case must this correspondence seem like a campaign of form letters. They must be personal.

Just as the two-cent stamp is a tireless helper in your sales promotion work, so the telephone should be used for the same purpose. Remember that every telephone call from your store or shop may be made to serve as a sales promoter for you, and try to make it that.

DURING THE SALE

BAn important adjunct in this part of the selling process is your store. It should be superfluous to mention the necessity of a clean and attractive showroom and building, with an effective display of cars, but the fact remains that there are many dealers who do not realize this necessity.

(Turn to page 40, please)

Carrying SERVICE to the Car Owner's Front Door

Making Free Inspection a Personal Matter

By William J. Johnson

IT has been said, and quite truthfully so, that the best car built is only as good as the service back of it. Service would, therefore, appear to be the logical channel of contact between the distributor and customer or dealer and customer. Such, at least, has been the experience of the L. & H. Motor Co., of Hartford, Conn., distributor of Hupmobile in seven of the eight counties of the state, and retailer in the Hartford territory, and it is with the latter of its functions that this story is concerned. This fast-stepping organization, which has a habit of carrying off factory sales prize contests, has determined that service is the big contact, the one factor that builds up good will and increases the sales volume. Experience has borne this out.

Service good will may be engendered through one of two channels or both, as is the case with the L. & H. Motor Co. Service contact may be gained through the service station proper or through a special service representative, or, as L. & H. Motor terms him, a "Service Inspector," whose duty it is to maintain close contact with all owners of Hupmobiles in the Hartford territory. He is the contact man. The business requires a chief executive, a capable sales and service head, but the service inspector is something yet again. He is the man who irons out the wrinkles, who sees to it all Hupmobiles coming under his watchful eye actually do function 100 per cent.

The L. & H. Motor Co. is an aggressive organization. While much of its business is of a wholesale complexion, the retail division covering the home territory of Hartford and surrounding towns is a tremendous factor in the success of the institution.

Eighteen months ago Major Thomas W. Campbell, president and general manager, mused on how to increase business? He viewed the situation from various angles and the answer to his own question was summed up in one word, "Service." Naturally there are various degrees of service. His conclusion was that service must be of the good will order; every owner of a Hupmobile should be given service of such a nature that he would go his way well well satisfied and tell his friends. Also the more he would tell others of the quality of that service, just that much surer would the company be of increasing its sales volume. Now then, the question was the best method of getting over that good will service. The service station could do it.



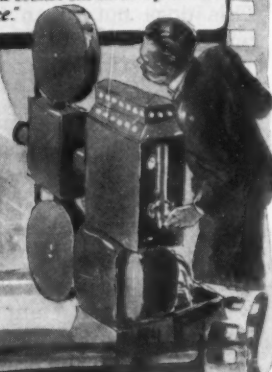
The service inspector draws up at the car owner's home



This close-up shows how car advertises its mission



The front wheels are out of line and the brakes should be equalized at once.



The distributor points need immediate attention.



This is the report of my inspection. I urge you to take it and your car to our service station at the earliest moment.

The major for the moment swapped places with the man who buys a Hupmobile. As a buyer and an owner, he asked himself what would make the most appeal to him; what would be most convincing to him as evidence of good faith on the part of the selling organization. And it occurred to him that solution lay in a little voluntary attention from the selling organization before the buyer had occasion to go to the service station; a checking up of his car now and then; a suggestion that the company was actually interested in him after the sale, and evidence of after-sale obligation on the part of the seller.

Thus it came about that there was recruited from the service department an individual with a pleasing personality, capable of meeting owners on their own ground, schooled in mechanics, and possessed of selling ability. M. W. Bonesio was the man drafted from the service department for this new service inspection department.

Calls Made Systematically

Service Inspector Bonesio has a regular list of calls. He divides the city into sections and routes his work so that he is not "running all over the lot." His mode of procedure is simple. Say, for the sake of illustration, there are a number of Hupmobiles owned along one long street. Bonesio takes these in rotation. He calls up the owners. He makes a definite appointment to inspect the car in the owner's presence. He is guided in his inspection by a regular inspection form. He fills this out in duplicate, shows the condition of the car and gives one copy to the owner and retains the other for the service files. This form carries the owner's name, the date, car mileage, and the car number. There are twenty items listed that call for attention. The owner is at liberty to call in Bonesio at any time. The system is much the same as the dentist or doctor of today employs. The optician uses it. It's a check-up made at frequent intervals. The system permits of the correction of faults before they become serious. The net result is a saving in money, the promotion of satisfaction and assurance that all is well, which is worth while.

The back of the inspection sheet, both original and duplicate, sets forth, "We have instituted this inspection service with the sole idea of being of service to the ever-increasing number of Hupmobile owners.

"Our inspector is authorized with your permission and cooperation to examine your car carefully, make any minor mechanical adjustments (his time permitting) he may deem advisable.

"Our inspector is not connected with the service department and has no authority to discuss service charges or make estimates on repair jobs.

"There is no charge for this service."

Owners Visited Four Times a Year

Under this system, Bonesio sees every Hupmobile owner in his territory once in three months, at least. If, in his opinion, a car should be sent to the service station for a major operation, he so indicates on his report to the owner and the office. It is his duty to determine that the owner is getting the utmost from his car. If, with the adjustments he may make, the car does not come up to standard, he refers the owner to the service department.

"This system," says Major Campbell, "enables us to keep in close contact with the owners. We feel that any member of the sales force proper could not successfully handle the inspection service. The salesman is instinctively dominated by one thought, 'to sell cars' and to him service would be a minor consideration. He would

be more interested in selling another car to the owner. The service inspector, on the other hand, has but one idea, 'to make every Hupmobile function 100 per cent.'"

Another house would ask if the system promotes sales. Major Campbell is best qualified to answer that question and he says, "The system stimulates good will. It has convinced our owners our interest in them did not cease with the purchase of the car. The system has stimulated the sale of service proper. It has added materially to the station volume. We retain much work that might go elsewhere, therefore we maintain the contact which is essential and desirable. These frequent inspections keep cars in better shape. That is a sales asset. We save owners many dollars in the course of a year. And they tell others and others come to us for new cars. The inspection is a decided sales booster.

"There is another angle to the proposition. Bonesio himself often sells a car. Furthermore, he is always at an advantage in that he can feel the pulse, so to speak, of owners. He knows when there is opportunity to make a sale before we do and he is permitted to make that sale."

"That owners appreciate this free inspection service is obvious," said Major Campbell, "from the numerous complimentary letters we receive. We consider this method the best we have ever used as a sales stimulant and our owners accept it as the best thing we ever did to insure proper working of their cars, holding down the up-keep and all that sort of thing. It certainly accomplishes the desired results."

Inspector's Appearance Important

In order that the man and his equipment may reflect the aims of the organization, Bonesio always presents a good appearance. When he comes to an owner's home he looks just as good as the owner. He is accepted as a messenger of good will. He makes his trip in a natty Hupmobile coupe, painted a light blue with the panels lettered in gold script.

The L. & H. Motor Co. keeps a close watch on the service station efforts and knows whether or not the owner carries out the suggestions of the service inspector as to the correction of major faults. Every time a bill is sent out for work done in the service station a postal card is inclosed on which the owner is asked to express his opinion of the work.

Time and experience emphasize the value of the inspector's filed reports. The reports carry the car mileage at the time of inspection. It has happened that an owner wanted to know just how far his car had gone by a certain date when he desired to make tire adjustments.

The inspector as a rule makes the inspection on the road sometimes trailing the car when he wants to check-up brake action and wheel alignment.

In the opinion of Major Campbell, the service inspector has done as much, if not more, than any other one factor to develop Hupmobile business in the Hartford territory.

New Truck Line for Duplex

The Duplex Truck Co., of Lansing, announces the introduction of a complete new line of trucks and the appointment of Thomas T. O'Brien as general sales manager. The new line comprises 1½-ton, 2-ton and 3-ton trucks with four and six cylinders. The four wheel drive Duplex, which the company has manufactured for 20 years, is being continued with many refinements.



Getting The on The

*Glenn Uses Novel Weapons But His Score
of One-a-Day Proves They Are Deadly*

By H. H. Dunn

IN the town of Oakland, Cal., which has better than 300,000 inhabitants, there is a used-car dealer who sells more than 300 cars a year, an average of one for every working day in the twelve-month and one for every 1000 of the city's population.

He never handles a new car; he never takes a trade-in; he pays cash for all the used cars he buys, and sells them either for cash or on a time-payment system approved by the largest and strongest bank in the city. He has no salesmen; he does very little advertising, and that in one newspaper. He keeps no prospect list; he never follows up a prospect; he never takes a car out on "demonstration"; he never buys a car that is more than three years out of the factory, no matter how good its condition; and in 13 years of used-car selling in Oakland he never has had a repossession, except one from a bootlegger who went to the penitentiary and—well, in a well-run "pen" how can a rum runner earn his car payments?

Yet in 1926, the hardest year used-car dealers ever had in California, he sold 326 automobiles, despite his unorthodox methods.

His name is J. W. Glenn, and with his son, W. H. Glenn, he owns the Glenn Motor Co., Inc., at 2343 Broadway.

He has been selling used cars for 17 years, four of them before he came to Oakland. He maintains a showroom and salesroom which, for cleanliness, attractiveness and visibility of merchandise, compares favorably with any new-car salesroom in the city. Out of his experience he has come to the firm belief that used-car merchandising and new-car selling are two entirely different industries, and that they never should mix, except in a case where the new-car dealer takes in a car of the same make that he sells. When owners bring to him cars more than three years old, he sends them to the nearest dealer in that make of car. If they like, they can come back to him with the cash received from the new-car dealer, and buy a

used car; if not, they can trade their old car in on a new one.

But let Mr. Glenn tell his own story:

"Used-car merchandising is a business of itself, altogether apart from new car selling, and until the automotive industry realizes that fact, the used car always will be its greatest problem. The used car has just as good a place in the automotive world as the new car—when it is advertised and sold on a basis of performance and appearance, just as the new car is sold today. We have been selling used cars on this basis for 13 years in Oakland, and for four years before that in another city. We have sold thousands of used cars and never had a repossession; built up a considerable cash and invested reserve, and have won the confidence and approval of the best banks in our town. No new-car dealer could do any more than this; I doubt if there are many used-car dealers who have done as much.

"We buy our used cars for cash, after thorough inspection, at a price that will enable us to sell the car at a profit after we have brought it into its best possible condition. We rebuild in our own shop all cars which have been run more than 4000 miles, and we buy no car which came from the factory more than three years prior to our date of purchase. Thus, in 1926, we bought no cars back of 1923; in 1927 we are buying none back of 1924, and so on.

Profit Percentage is Fixed

"When we have repaired or rebuilt the car, we add the actual cost of such work and parts to the price we paid for the vehicle. On that we put a fixed percentage of profit, absolutely unvariable. The same percentage holds whether the car is a Cadillac or a Ford. We give an airtight guarantee on all mechanical work and parts for 90 days, and beyond this we guarantee the car to be exactly as represented in the bill of sale, in which is written a detailed description of the automobile sold. Beyond this, we maintain a completely equipped service and repair shop, for the use of our customers after the 90-day period of our guarantee has passed. All that we wish to do on these repairs is 'break even,' and this is all we do, using the service as an advantage to our customers and an advertisement for ourselves. You would doubt me if I told you how many used cars we have sold as the result of this repair and maintenance service.

"We take no trade-ins, because this feature is, in my opinion, ruinous to the used-car business and damaging to the new-car industry. If we took trade-ins, they nat-

Bead Used Car



Above is the attractive, neat used-car showroom. At left is the open, inviting Glenn store front

urally would be of older models than the cars we would sell to their owners, since no owner would trade for the same model. We soon would be left in the position in which many used-car dealers have found themselves—with a lot of old cars on our hands, good for nothing but to be junked. The dealer who takes trade-ins also must charge a steadily increasing percentage of profit on each used car he sells; our profit is a fixed percentage, which we, by experience, have found to be fair to the buyer and to us.

"There is another important factor to the trade-in situation: The owner who turns in an old car as payment on a newer model, drives his buy two or three months and finds that he has paid too much for his new used car, since the dealer absolutely has to charge him a higher percentage than if a cash first payment had been made. Then the buyer says to himself, 'Well, I've got the worth of the old bus out of the new one; guess I'll quit.' And he does quit, leaving the dealer with a depreciated car on his hands, little or no cash to show for the transaction, and the job of selling two cars in place of one, on his hands.

"As I have said, we get our cars by paying cash for them, but I must add to this that we have difficulty in getting enough good used cars to supply our demands. We plan to keep about 20 well-repaired or rebuilt cars of as many makes as possible, on our floor all the time, but we rarely succeed in having this number, and both my son and myself are constantly on the lookout for used cars we can buy. We have never had any trouble selling them.

"Sometimes we advertise for used cars, but as a rule we get them from owners who are sent to us by men and women who have bought cars from us and are well satisfied with their purchases. Neither in buying nor selling do we seek volume of business. We prefer having *good* used cars on our floor to taking in cars at much lower prices which have to be rebuilt entirely. With our fixed percentage of profit charge we do not make any more on the car which has to be rebuilt than on the one which merely needs a thorough overhauling, yet, on account of the labor and parts charge, we frequently have to get as much out of the rebuilt car as we do out of the one that was in good condition when we got it. You may well imagine that a large part of the success of our business lies in the expert fixing of the price which we pay for the used car.

"So much for our buying; now for the selling end of our business:

"We keep our cars on display in a salesroom 60 feet wide on the main business street of Oakland. This front closes with glass doors, so that our entire stock is on display day and night, since we maintain all-

night brilliant illumination. The floor of this room is polished concrete, checkered to look like vari-colored marble. The walls, above a low redwood wainscoting, are white tile. On each side, well up on this tile, we have four large oil paintings showing beautiful scenes along the paved highways of California, attractive to the motorist and suggestive of vacation tours. At the rear, across the entire width of the room, we have a large fresco, also done in oil, of a California scene, with a paved highway winding through it. Above are windows, giving additional light.

Keep Showroom Spotless

"A carpeted aisle leads from the wide entrance down between the two rows of cars, ending at the offices which are at the right rear, and branching also to the repair and service station, access to which is given through a curtained arch. From no point of the showroom can the mechanical department be seen, and we allow no mechanics on the salesroom floor. Potted plants and wallbaskets of flowers are kept fresh at frequent intervals on the walls of the showroom. The cars are placed far enough apart so that persons can walk freely about them. Pans are kept under each car, and every car is repainted and highly polished before being put on the floor. Cushions and all external parts of the car are kept spotlessly clean, so that women customers may have no fear of soiling their dresses in trying out the seats or examining the cars in any way. In other words, we keep our used cars as clean and as attractive in appearance, and in as pleasing surroundings, as any new-car dealer possibly could. We consider that this alone has brought and kept us many customers, many of them repeats, for we have on our books men who have been coming to us each year for three to five years to sell their old cars and buy new ones. Possibly you will be surprised to know that many of these are men of good incomes—'well-fixed' business men—financially able to buy new cars, who prefer to pay \$750 to \$1000 for a guaranteed used car, rather than \$1200 to \$1800 for a new one.

"We keep no prospect files, nor do we seek prospects. We depend on the appearance of our place of business and occasional newspaper advertising to bring in buyers. The man who comes in, looks over a car and goes away without buying, is never followed up. Similarly, the man or woman—for the latter do this most frequently—who telephones in for a 'demonstration,' is politely informed that our cars are all busy. We do not believe in giving our cars and time free to haul men to business or women on shopping expeditions. Such persons are invited to come to the store.

"In our advertising we state make, age, price and mileage of used car offered for sale. When a buyer comes in, we put him at the wheel of the car he selects, and then my son or myself accompanies him on a drive so that he may see for himself the performance of the car he is considering. In no case do we drive him; if a man cannot drive the car he wants, we have neither the time nor the men to teach him. We do, of course, give a buyer any information he may wish on the upkeep, handling or care of his car, and we make every effort to aid him in getting all possible value out of the machine.

"If the owner of a car too old for us to buy comes in, we send him either to the dealer in that car or to some used-car dealer who makes a practice of buying old cars or taking them on trade-ins. We suggest to him that he sell his car for cash and come back to us for a real buy in a used car. Many times he does

come back. Scores of such cars come to us on which we might make a profit, but we would have to violate the rules of our business if we did. I forgot to mention that, with Chevrolets and Fords, we do not buy any cars that have been out of the factory more than two years; with other makes, three years is the limit, and we adhere to it rigidly.

"We insist on 40 per cent of the purchase price of any car as the first payment. The balance can be paid off in any number of instalments up to 12, but in no case can the deferred payments run longer than one year. On this basis the banks never have turned down a single piece of our paper. The answer is simply that the man who has a 40 per cent interest in an automobile will make every effort to pay out on it rather than let it go back to the seller. On the floor out there, for example, is a 1925 model of a car which sold new at a little more than \$1,800. It has been thoroughly overhauled, new batteries put in, and it is in first-class condition for its age and the mileage it has run. Our price on that car is \$850. That is the fixed and unchangeable price, and the down payment is \$340 cash. That also is fixed and unchangeable. The balance of \$510, with interest, may be divided into 52 weekly payments or 12 monthly.

"We keep no salesmen. My son and I do the selling, and one of us is always on the job in the store. The man in charge of our repair and service department has been with me 10 years, and knows more about the interior of every car manufactured today than any man I ever have known.

Location an Important Factor

In sales price the majority of our cars fall in the \$500 to \$800 field, and it has been our experience that the demand for used cars is greatest within this price range, though we have sold used cars up to \$3,000, but such sales are rare.

"In addition to rebuilding of cars, attractiveness of display, comparatively large down payment and short instalment period, I should say that location is as great a factor in the success—or failure—of a used car dealer, as it is of a vendor of new automobiles. The used-car dealer today must be on one of the main arteries of traffic, or close to it; otherwise he will find himself becoming what so many of them have become, merely a dealer in old cars—an automotive junk man, so to speak.

"The used car dealer must display his wares to their best advantage, where the greatest possible number of prospective buyers will see them, just as does the new car dealer. He must be able to guarantee his cars, and keep them in shape to make good on that guarantee. He must get sufficient cash down on each car to insure that the buyer will continue paying for it, and he must conduct his business in such a manner that the banks are willing to extend to him reasonable financial support. In short, the successful used car dealer of the future—when I believe all used cars will be handled by exclusive used car men—must buy and sell his merchandise on the same basis that the new-car dealer handles his."

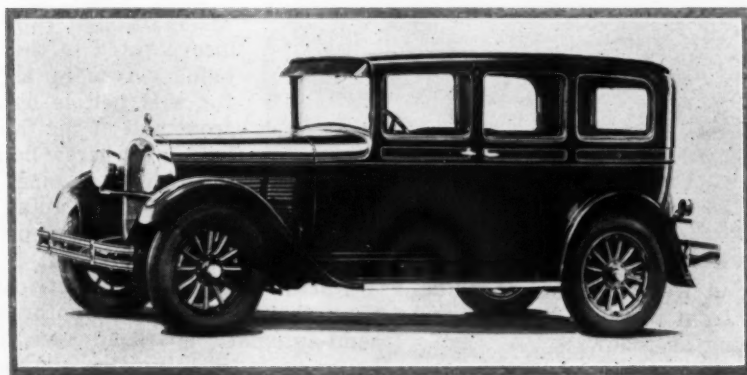
Be Sure It's MOTOR AGE!

When you give a subscription to MOTOR AGE, make sure that it is MOTOR AGE, and not some other magazine.

Dodge SENIOR at \$1,595 is Six-Cylinder Entry

Senior Sedan First of New Line

Sedan is First of Body Models Available—Coupe and a Cabriolet Roadster Will be Added



L-Head Engine of 3¼-in. Bore and 4½-in. Stroke Has 69-lb. Seven Bearing Crankshaft

Double belt molding and horizontal louvres combine to give this four-door sedan a low, long appearance. The price is \$1,595

REPRESENTING the first entry of Dodge Brothers into the six-cylinder field, the new

Senior line which is now being introduced involves no radically new features in design. While only a single body type is available at present, a four-door sedan, priced at \$1,595, other models, including a four-passenger coupe and a cabriolet roadster, will be added.

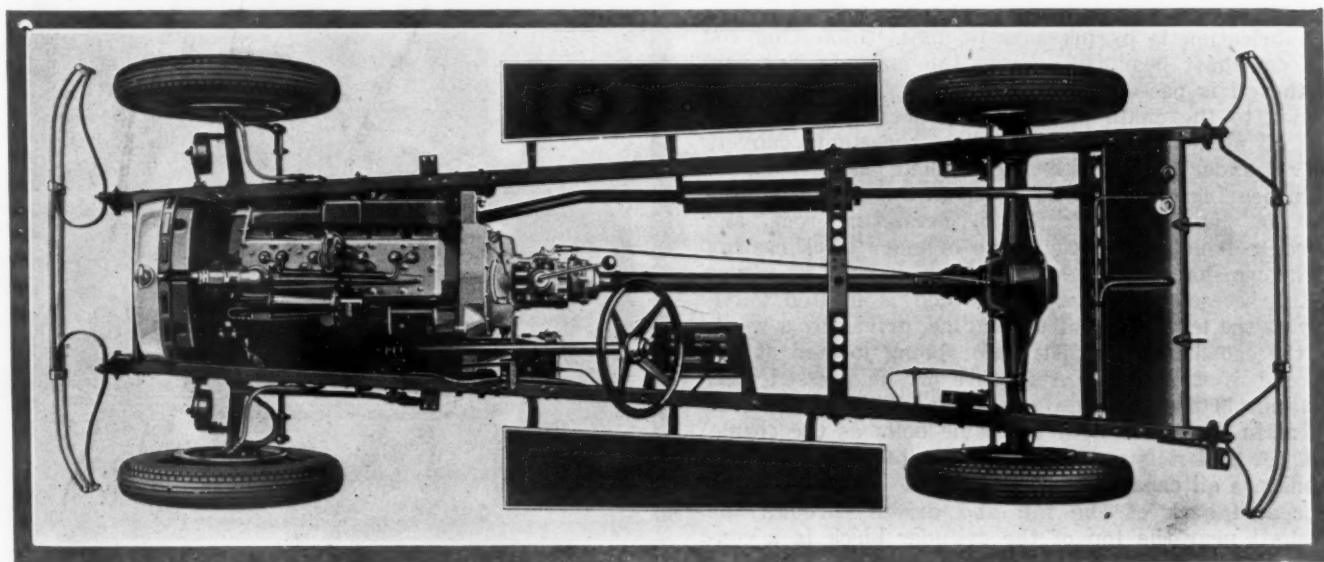
An unusually heavy crankshaft features the engine used in the new car, which although built by Continental has been designed and developed by Dodge Brothers. Other chassis units, with the exception of hydraulic four-wheel brakes, are based on the corresponding units in the present four-cylinder line.

Incorporated in the six-cylinder L-head engine, with

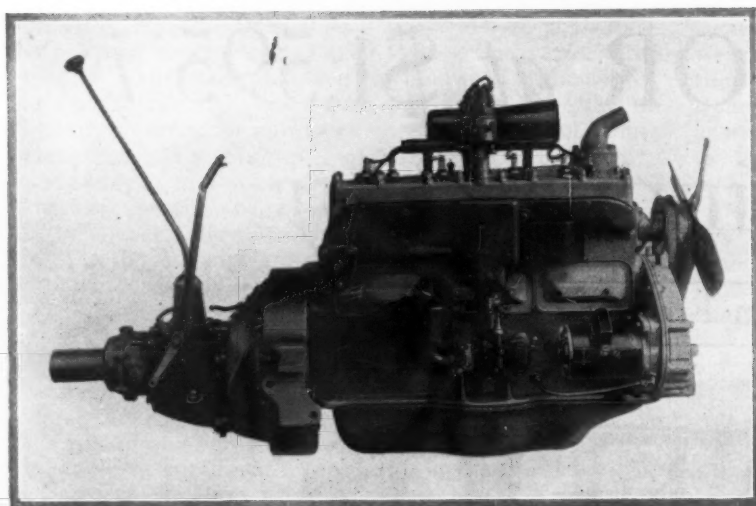
By Athel F. Denham

a bore of 3¼ in. and a stroke of 4½ in. is a 69-lb. crankshaft, having seven main bearings, the front bearing, which also takes the thrust, being 2⅝ in. in diameter, while the others are 2⅝ in. Crankpin diameters are 2⅝ in. throughout. A total of 11 in. of main bearing length is used, divided up as follows: Front 2 1/16, center 1 7/8, rear 2 5/16, intermediates 1 3/16. With a total piston displacement of 223.98 cu. in., this gives a ratio of only 7.91 cu. in. per square inch of crankshaft bearing projected area. N. A. C. C. rating for this engine is 25.3 hp.

Driven by a 1½-in. wide, 1½-in. pitch Morse center guide chain, provided with a manual take-up by means of an eccentric bushing on the generator support, 5/16



Bird's-eye view of the Dodge Senior chassis showing characteristic Dodge Brothers' construction. Note the bumper brackets, integral with the frame



A by-pass is provided in the exhaust manifold on the six-cylinder engine of the Dodge Senior, to enable intake heating when starting. The water pump is back of the fan in the cylinder block

in. left camshaft is provided with four bearings, decreasing in diameter from front to rear, diameter and lengths of the bearings being as follows:

	Diameter	Length
Front	2 3/8 x	1 23/32
Second	2 5/16 x	1
Third	2 9/32 x	1
Rear	1 7/8 x	2

Chromium steel cam followers operate the 1 7/16 in. silchrome exhaust and 1 1/2 in. nickel steel intake valves. The combustion chamber has been designed to secure maximum turbulence, the highest point being immediately over the intake valve, at which point the spark plug is also located.

Pistons are of the Nelson steel strut aluminum alloy, four-ring type, all four rings being located above the piston pin, the three upper being 1/8 in. and the lower 5/32 in. wide. The lower ring is of the oil control type. Two snap rings are used to locate the full-floating 7/8 in. piston pin in the piston, the pin itself being 2 3/4 in. long. Connecting rods are conventional in design, I-beam in cross section and 9 1/2 in. between centers, the lower end bearings being 2 3/8 in. in dia. and 1 7/16 in. long, centrifugally cast in the rod.

Lubrication is by pressure to main, connecting rod and camshaft bearings. From the main header part of the oil is passed through a filter. Thence it is returned to the chain case, flowing back into the pan. The oil pump, which is inclosed in the sump, delivers the oil under pressure through drilled passages to the main bearings. Thence it is fed through drilled passages in the crankshaft to the connecting rods, and through drilled passages in the cylinder block casting to the camshaft bearings. Oil pump drive is by means of the accessories driveshaft, which is located vertically at the left center of the engine, driven by a worm on the camshaft, the distributor being located at the top end of the shaft. A feature of the pressed steel crankpin is the separate splashpan which attaches to the main crankcase with the same bolts as the crankpan. A gasket is used on each side of the splashpan. Crankcase oil capacity is 7 qt.

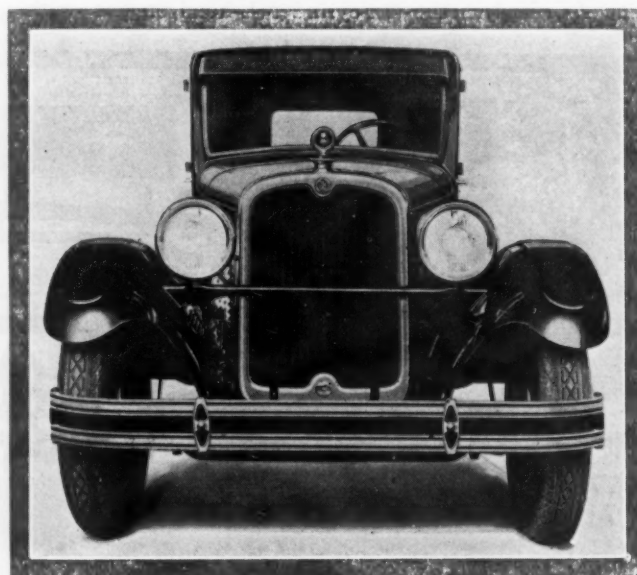
Located back of the fan and driven through the fanshaft near the top of the cylinder block is a centrifugal type water pump, which delivers cooling water through a manifold at the side of the engine to the rear cylinders. This manifold is combined with the re-

movable water jacket cover plate, which also serves for the oil filter mounting. Water is also carried around between inlet and exhaust valves guides, cored passages also extending to valve seats. An outlet riser is provided at the top of the detachable cylinder head, and is provided at the front end with an integral bellows type thermostat. Small passageways are provided through the thermostat valve and between the pump and the cylinder block to prevent the forming of steam pockets through total lack of circulation.

Both water pump and fan thrust are taken through two Timken roller bearings incorporated in the fan mounting, the fan being driven by a 3/4 in. V-belt. Take-up for this belt is obtained by screwing the front half of the fan pulley toward the rear half, a set screw being provided for locking the former in place after adjustment. To prevent oil escaping at the fan belt pulley, an oil thrower is provided at the front end of the crankshaft as well as a cork washer.

North East 6-volt electrical equipment is used throughout. The distributor has been designed for semi-automatic spark advance, 20 deg. manual control being provided. Ignition timing with full manual advance is set at 12 deg. before top dead center. The firing order is 1-5-3-6-2-4. A 5/16 in. plate is used to mount the North East generator, which is driven by the front end chain through a laminated spring coupling. This method of drive and mounting enables the generator to be removed without disturbing the timing chain. Bendix starter engagement is used.

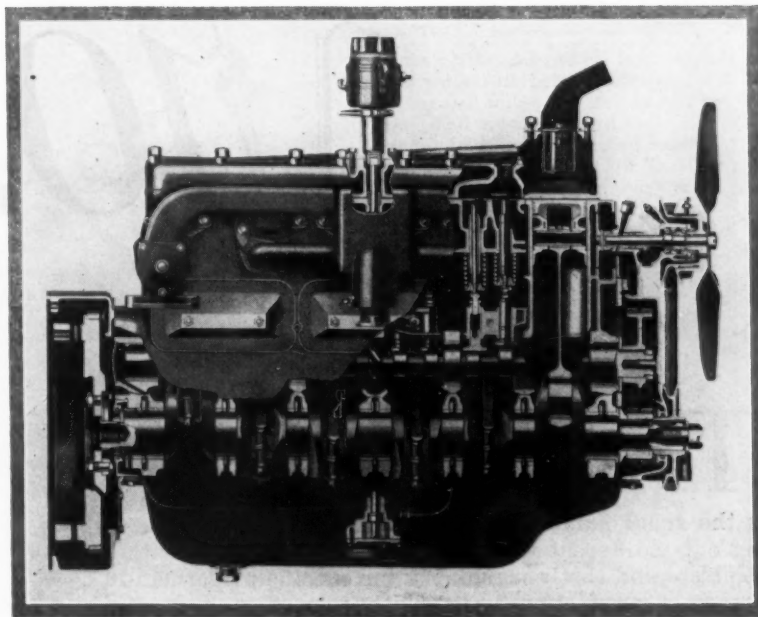
Two strainers and a gasoline filter are provided in the fuel line, which is of the vacuum type, the tank at the rear of the chassis holding 16 gal. A Stromberg 1 1/4-in. carburetor is standard, while an air cleaner is also furnished. The intake manifold is partially jacketed by the exhaust manifold, a double cored passage being provided in the exhaust manifold. A double butterfly valve at the rear end of the exhaust manifold, controlled from the dash allows the exhaust gas either to



An unusually narrow nickel-plated radiator shell is used on the new Dodge Senior, which, combined with wide fenders, gives the car a massive appearance from the front

pass directly into the muffler through the passage nearest the blocks or forces it to flow around the intake manifold and escape through the second passage. It might be supposed that this design would tend to build up considerable back pressure in the exhaust manifold. However, it is claimed that it is necessary when starting to use the auxiliary passage for such short periods only that the effect of back pressure is negligible, this being the only time when it is necessary to use the auxiliary passage. As an additional precaution to prevent cooling of gases in the intake manifold, each arm of this manifold supplying three cylinders, the front portion is shielded against airflow from the fan.

Engine suspension is of the four-point rigid type, the two front supports being cast integrally with the chain cover plate, and resting on the front frame cross member, while rear engine supports are integral with the flywheel housing. In unit with the engine is the 11 in. single plate clutch built for Dodge Brothers by Borg & Beck, and a standard shift conventional three-speed transmission, similar to the type recently adopted on the four-cylinder Dodge Brothers chassis. Gear ratio in this transmission in low is approximately 14 to 1, while about 18 to 1 is used for reverse. Both the countershaft gears and the front end of the spline shaft are supported on Hyatt roller bearings. A feature of the clutch is the ball bearing used in the clutch release mechanism, lubricated by a grease cup with a flexible tube, accessible without removing the floor boards in the car. Centering of the sheet steel clutch housing is obtained by counterboring the flywheel



Longitudinal sectioned view of Dodge six-cylinder engine

housing. A deflector hole is also provided in the flywheel to take any grease and oil away from the clutch plates.

Following Dodge Brothers' practice, a metal universal and a tubular propeller shaft inclosed in a torque tube, are used. Gear reduction in the spiral bevel semi-floating rear axle is 4.54 to 1, axle construction following the design used in the four-cylinder model, with a pressed steel housing of 7/32 in. stock, chrome vanadium heat-treated steel gears and shafts, and adjustable taper roller bearings. The frame also follows closely on the four-cylinder design, the major difference being in the provision of front and rear bumper brackets integral with the spring hangers.

Semi-elliptic 2-in. width springs are used front and rear, the rear springs being underslung, 55½ in. long, while the front springs have a length of 37 in. Spring shackles are of conventional design, while the springs are provided with rubber stops above the axle supports. Reverse Elliott ends are used on the I-beam heat-treated chrome vanadium steel front axle, steering knuckles being of the same material.

Ease of steering is obtained by using a 13 to 1 reduction in the worm and sector Gemmer steering mechanism, and ball thrust bearings between the knuckles and the axle ends. Lockheed hydraulic two-shoe internal expanding four-wheel brakes are operated by the pedal while the hand lever operates the rear wheel brakes through mechanical connections, the rear brakes' shoes being so designed as to permit the optional use of either hydraulic or mechanical operation. Brake drums have an internal diameter of 14 in., and are equipped with lining 1¾ in. wide and 3/16 in. thick. A reinforcing flange is integral with the brake drums.

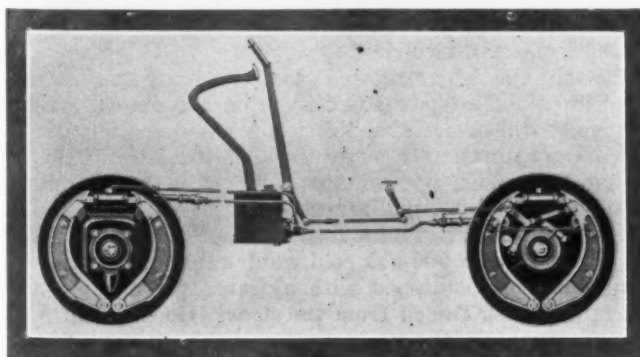
An oil tank is located adjacent to the brake pedal to provide automatic refilling of the braking system.

While the four-door sedan is equipped with wood wheels as standard, it is possible that additional models in the line may be equipped with disk or wire wheels. Tires on all models are 32 x 6 balloons mounted on 20-in. rims.

Composite construction is used for the body of the four-door sedan. Individuality is obtained through the use of a very narrow nickel-plated radiator shell and

(Turn to page 38, please)

*Rear view of
Dodge Senior
sedan*



The Lockheed hydraulic brakes on the new Dodge Senior are of the latest type, with an oil reservoir surrounding the master cylinder. Note the rear wheel brake, which can be operated optionally, either by hydraulic or mechanical application

General Butler did a dry-cleaning job in Philadelphia during his erstwhile regime as police sultan. A wet-cleaning job is now being performed by the Sykes Auto Laundry. "Dave" Sykes entered the business with the intention of doing a thorough task of car washing, and he has been successful. This comprehensive story will tell you how he conducts a business in the virgin car-laundry field.

\$10,000 To

*And the Automotive Laundry
Invested a Tidy Nest-Egg in
Average Daily Hatch is
Rate of \$2.80, Ex*

By K. H.

THERE are auto laundries and auto laundries, just as there is a wide variance between the two general classes of laundries for household linen and clothing. For instance, there is the small hand laundry of limited facilities, turning out indifferent work, and the power laundry with complete and costly machinery for specific performances on a production basis, with scientific chemical research behind its efforts.

It is of the auto laundry corresponding in a general way to the latter class that this article treats. As a concrete example, take the Sykes Auto Laundry, Philadelphia, established about a year ago. Sykes' laundry is of so "different" a kind as to stand in several ways by itself, according to experts who have viewed it. This is largely because its owner, David Lincoln Sykes, is a different kind of proprietor. He made an exhaustive study of the business before engaging in it; he is still studying its possibilities and limitations, and constantly making chemical and mechanical research further to improve the system. In its washing equipment alone, which cost \$10,000, the Sykes laundry is outstanding in its locality.

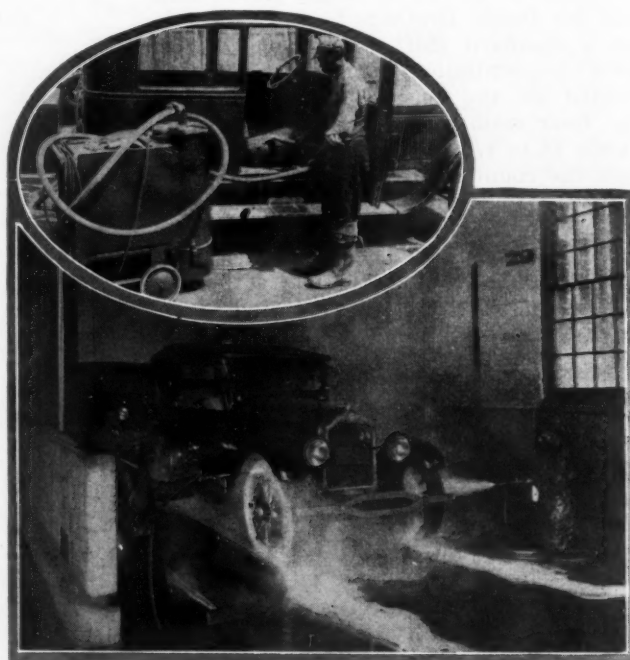
The three general stages of cleaning a car by the Sykes system are: 1. Vacuum cleaning of the upholstery. 2. Chassis washing. 3. Body washing. The point is not that the stages in themselves are out of the ordinary, but the method undoubtedly is different from that employed in the usual auto laundry.

The first problem was to get the proper machinery to coordinate; the second was to have just the right chemical formula to obtain the maximum desirable results with the minimum of effort, and the third was to secure the right men and train them in the particularities of the system, which was readily disposed of.

In considering Problem No. 1, relating to the upholstery renovating stage of car cleaning, to get the best results in the shortest time, which must be the basic idea in any production plan on a sizable scale, Sykes finally selected the largest size Arco-Wand vacuum cleaner, of 1 hp., on wheels, made by the American Radiator Co., laying in a reserve stock of both sucking and blowing nozzles for removing dust, the device having a driver for the blowing nozzles. The dust-container is of such capacity that, notwithstanding an average of 35 cars a day, six days in the week, it does not have to be emptied oftener than twice a week.

One man is assigned to vacuum cleaning and he can usually finish the interior of even a large closed car in about 10 minutes. He wheels the cleaner alongside the customer's car and freely applies the hose nozzle to the upholstery, using the blower attachment for such corners and crevices as cannot be properly attacked with the suction nozzle. He has instructions to remove no material from the car.

Problem No. 2, as relating to chassis washing, pre-



In oval: First laundering stage—vacuum-cleaning the upholstery. Below: Second stage—pressure spray-washing the chassis in the pit

sented greater difficulties.

In the specially inclosed combination tank room, laboratory and reserve stock room on the main floor is assembled the chassis washing machinery. Here is a Chicago pneumatic air compressor, 15 hp., 7½ x 6, supplying 107 cu. ft. per minute; a Lovekin 60-gal. automatic heater; a 300-gal. air tank and a hot water tank of the same capacity, built to Sykes' specifications after his own design; a 900-gal. cold water tank and two solution tanks, one equipped with agitator for mixing, all the tanks being raised from the floor. Hooking up for chassis washing, the pressure applied may vary from 90 to 100 lb., according to the needs of the job, pressure and volume requirements never being confused in this plant. The chassis cleaning solution, consisting of water, olive soap chips, trisodium phosphate and alkali in proportions worked out by Sykes after much experi-

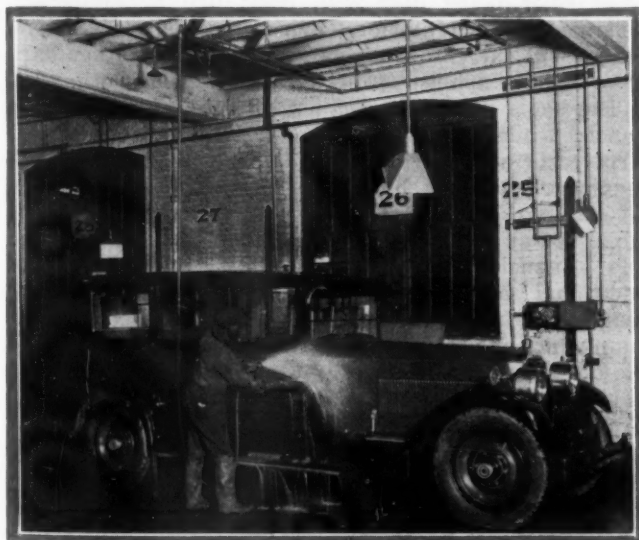
Do The Wash!

*Can't Come Too Dirty for Sykes, Who
Car-Washing Equipment Whose
35 Cars at a Per Vehicle
clusive of Extras*

LANSING

mentation, is applied at 130 deg. Fahr. through spray nozzles, with graduating controlled force to remove the dirt.

The chassis washing, or spraying, is done at a triple-form concrete pit, opposite the tank room and a short distance from where the upholstery cleaning is done, so there is a minimum loss of time in moving the car to the washing stand. The car is placed over the drain pit in the center, which is flanked by the two pits, each 2 ft. deep, in which the washers stand, dressed in waterproof coats and hip-length rubber boots. There is a high concrete guard wall between pit and garage aisle to protect the public. The chassis spraying operation, together with whatever brushing with special brushes may be necessary to remove grease and oil, takes from 30 to 15 minutes, according to whether there are two



Third stage: Washing the body. Note the overhead shower nozzles

or four men in the pits, the latter being the usual number employed.

Cars that have hard deposits of grease and tar on the chassis parts must be hand-scrubbed with kerosene, in addition to spraying, so an extra charge is made when a car in this condition is worked on. As the clean-

*A typical example
of the kind of ad-
vertising done in
newspapers by the
Sykes Auto Laun-
dry*

**ARE YOU HUNTING
FOR A PLACE TO
CLEAN? ? ?
YOUR
CAR?**



LET SYKES DO IT

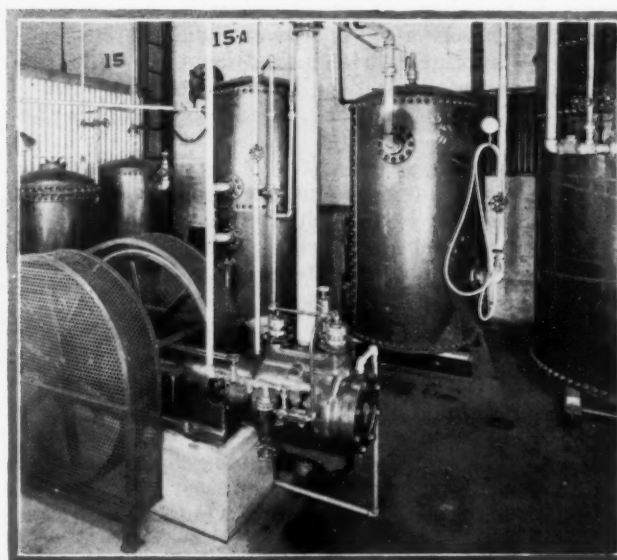
Man, oh! man, how we clean it! Ten expert cleaners well drilled in operation of new \$10,000 cleaning process. When we're through it's clean—believe us!

Open Cars, \$1.75 to \$2.50
Closed Cars, \$2.25 to \$3.00

SYKES AUTO LAUNDRY
3425 North Broad St.
Next Door to Samaritan Hospital

ing is done on the plan of "everything that can be seen and reached," when a stripped chassis is brought in to be cleaned, revealing, of course, parts that cannot be seen and reached on an assembled car, there is also an extra charge. At a wall-sink in which sponges, chamois skins and towels are washed out, hangs a container with spray, with which to apply a solution of gasoline and kerosene, sometimes deemed advisable, following the regular chassis spray of cleaning solution. While the latter may be used with impunity on cars in good condition, care must be exercised on cars having leaky valves.

For the next stage of the general cleaning process, that of body washing, the car is moved from the chassis washing pit to a station a few feet further on, in regular progression, where there are two overhead shower nozzles, or roses, and a swing-arm for the hose. Only cold water is applied to the body of the car under ordinary circumstances. If, because of an unusual coating of dirt or other substance not easily removed in the cold water washing, it is regarded as advisable to use weak soap solution on the body, permission always is first obtained from the owner. However, the solution is applied only in extreme cases, in any event.



Part of the \$10,000 equipment in the tank room

Only one man is needed for the body washing and this part of the job normally takes about 8 minutes. If the car is a closed model the showers are allowed to run on the top for a short time, after which the washer mounts a three-step ladder and cleans off the top of the car with a long-handled brush, with which he can reach all over the top from his position on the ladder. In turning his attention to the tonneau, hood and other parts of the body, the washer holds the hose nozzle in one hand, allowing a broad, controlled spray to play over the surface while he uses a sponge with the other hand to remove the caked dust, or hardened mud loosened by the spray. Where necessary, a brush is applied. At each of the stations at which washing is done, are strong overhead electric spotlights focused on the car, so that every unclean spot may be visible. At the body washing stand these are brought low.

Finishing, including drying, follows the body-washing process. There are six finishers in a full crew and the operation is performed at the same stand as the body washing. The men rub off the car with absorptive towels, glove-dusters of soft material and chamois skins, the entire operation consuming from 15 to 20 minutes. This is considered an especially important process, as it gives the car its final finished appearance. If deemed advisable, following the cold water wash, a finish spray of mixed gasoline and kerosene is applied and the car dried after the usual manner, with towels and chamois skins. Cars simonized, or otherwise wax-finished, on being thoroughly dried after a wash are burnished with cheese-cloth. As cars having windows require extra work in washing and finishing, the charges are higher for closed models, this being graduated according to types and sizes. Soft cotton is used to wipe off the inside of reflectors and sun visors.

Offsetting the "Flyspecker"

Sykes' operating costs, with his equipment and methods, are higher than those of the usual auto laundry and he charges more for what he considers better service and a longer-lasting job. Inspection as the job proceeds and after it is finished is one of the "high lights" of the work, either Sykes or his foreman attending to this phase. As the average customer sees first any overlooked spot to the exclusion of all the good work on his car, the importance of a check-up on everything is emphasized in this shop. Giving the "flyspecker" no excuse for a come-back has its rewards in the auto laundry in the shape of repeat orders.

No laundry work at all is done on Sunday. The week-day work starts at 7.30 a. m. and lasts till 7.30 p. m., and occasionally till 8. The laundry has a production average of 35 cars per day, at an average of \$2.80 per job.

Following is the Sykes price list, with the classification of Fords; other cars such as Chevrolet, Star and Overland; medium cars, such as Dodge and Chrysler, and large cars, such as Buicks, Studebakers, Cadillacs and the like, there being differences in the charge for open and closed cars of the same make:

Size Car	Open	Closed
Fords	\$1.75	\$2.25
Other small cars	2.00	2.50
Medium cars	2.25	2.75
Large cars	2.50	3.00

The service included in the foregoing charges includes vacuum-cleaning of upholstery, pressure-spraying of chassis washing body and cleaning windows. For hand-scrubbing with kerosene, in addition to spraying, for grease and tar cases, a charge of \$1 additional is made

for small cars and \$2 for large cars. Extra charges for nickel polishing on Fords are 25 cents; on medium cars 50 cents, and on large cars 75 cents.

From the laundry idea can be developed many a sideline service closely allied thereto. Those who wish to go further in car cleaning than washing the surface and renovating the upholstery, are afforded the opportunity of having their motor cleaned for \$2; their transmission cleaned, but not drained, for \$1; and their stripped passenger car washed under pressure for \$5. Trucks are cleaned for \$8 to \$12, according to size and condition. Body polishing on small cars is done for \$1.50; on large cars for \$3. Wax polish is applied for \$1 extra. Carbon is removed by oxygen for 50 cents a cylinder. A complete oiling and greasing service "before the customer's eyes" is provided on a treadmill type Swift Lift. It does not take much selling effort to get the customer to have his car lubricated after a wash, with all devices handy. Sykes' lubricating system embraces complete lubrication, including oil-spraying springs and brake attachments, at the rate of \$1.50 for Fords and \$2.50 for other cars. He also does simonizing at charges varying for size and type of car. He finds the whole scheme works in well with laundering cars. If a customer wishes any mechanical repair work done, Sykes will take care of it through a reliable outside shop.

In his constant efforts to improve the service, Sykes or his foreman holds "laundry clinics" in spare moments when work is slack. In this way the force is kept "on its toes," through review of the system and introduction of new ideas, and helps prove that an auto laundry, like a repair shop, will flourish when properly equipped and conducted.

Dodge Senior is Six-Cylinder Entry

(Continued from page 35)

horizontal louvres, while double belt moldings give the car a low appearance. Exterior finish is in lacquer, the basic color being blue with black belt moldings and yellow striping. Interior finish is unusually attractive. At present the cars are coming through in either dark gray mohair upholstery or light grey broadcloth.

The same materials are used for finishing interior panels, while windows are trimmed in burl walnut. Arm rests are provided for the rear seat, while silk toggle grips, draw shades, foot rest and robe rail are all standard. Grouped under a distinctive instrument panel are an eight-day clock, speedometer, oil pressure gage, ammeter and electric control gasoline gage, an additional gage being provided on the fuel tank at the rear. The instrument panel is lighted by an external lamp which is provided with a shutter. The switch for the dome light has been placed on the right center door pillar where it is easily accessible to the driver.

At the right of the instrument panel are two buttons for operating the choke and the manifold heat control. A locking ignition switch is provided at the left of the panel. Both throttle and spark control levers are mounted on the walnut steering wheel while the lighting switch is located just below the wheel on the steering column. A nicked lever is provided below the instrument board to operate the cowl ventilator. Ventilation in addition is furnished by means of the crank-operated swinging type windshield.

Included in the standard equipment of the four-door sedan are front and rear bumpers, snubbers all around, vanity and smoking sets, rear vision mirror, vacuum-operated windshield wiper and engine thermometer.



Are Glareless Headlamps Fact or Fancy?

By R. H. HUMBERT

Engineering Department, National Lamp Works

HUNDREDS of people from all walks of life—doctors, lawyers, mechanics, bankers, artists, manufacturers, and engineers—have devoted years of time and vast sums of money to provide relief to the millions of motorists who have long been waging a battle against the common foe—glare. The result has been a flood of “glare-free” devices. But Demon Glare still stalks the highway popularly condemned and violently cursed—but greatly misunderstood.

The glareless headlamps would be a reality—provided that all road surfaces were perfectly level and smooth, all springs removed from automobiles, every highway always free from pedestrians and overhanging obstructions, and all cars equipped with solid tires! If these conditions prevailed there is no doubt that all headlamps would be glareless. It is simple enough to form a beam of light which under such ideal conditions can be projected down the road and still kept out of the other drivers' eyes.

Under actual driving conditions, however, a fixed beam of light simply cannot furnish adequate road illumination and complete freedom from glare. This does not mean that all headlamps are alike. Some single-beam equipments are far better than others in light distribution and construction, and in provision for simple and positive adjustment. Nevertheless, in spite of all the claims of designers and inventors, the fact remains that one and the same beam, no matter how well formed or carefully aimed, cannot produce safe road lighting and at the same time *always* be free from dazzling glare.

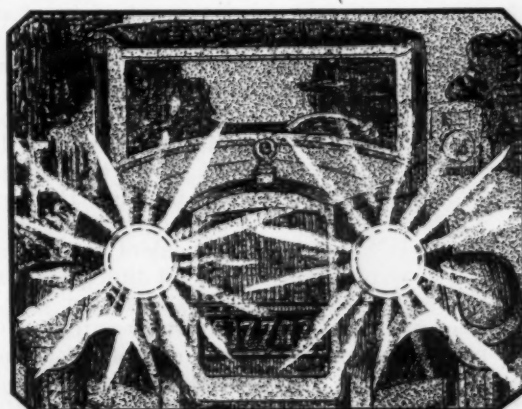
To be adequate any headlighting device regardless of its particular characteristics must, when all is said and done, throw a beam of light containing thousands of candlepower far enough down the road to enable the driver to see quickly and surely. Even

though such a beam were confined entirely below the level of the headlamps it would still become glaring. This isn't at all surprising, for the light which enables one driver to see is the very same light which annoys other drivers. It's really just a difference in the point of view. The minute a car is in motion, even when traveling over what are called good roads, the high-powered beam is repeatedly lifted off the road, blinding approaching drivers. And this is continually getting worse as cars are built lower, balloon tires and soft springs become universal, and with more and more cars to pass.

Now, if the beam is tilted downward so that even under the worst conditions it will not be lifted sufficiently to reach other drivers' eyes—and this is only a matter of tilting the beam two or three degrees—dangerous glare will be eliminated. But—the lighting will not permit safe driving at normal speeds on the open road, even though it is an improvement for passing other cars and adequate as it is for traveling on lighted city streets.

Glare isn't a peculiar form of light which can be filtered out from the rest like chaff from grain or water from gasoline leaving only the useful seeing glare. Glare is the result of light in the eye which does not contribute to vision; light which is in no way different, except in direction or concentration,

from the light which aids us in seeing. Any light at all may be glaring—a lighted match in a pitch black room may cause one to blink with discomfort, yet who ever considered such a light as dangerous? Glare may result from an excessively bright light in the line of vision, from a too severe brightness contrast, as the match in the dark room, or from too much light entering the eye as is experienced on a bright winter's day. There are actually just as many degrees of glare as there are intensities of



light. Glare may be anywhere in the range from slightly noticeable to actually blinding and acutely distressing.

Years of experiment and study on the part of those who have lived with the headlighting problem have resulted in a fairly definite knowledge of the amount of light necessary and the distribution of light desirable for adequate road illumination. Where such light is furnished by headlamps located on the car, thousands of candlepower must be directed far down the road, below the level of the headlamps in order that sufficient light be reflected back into the eyes of the driver to form a definite image quickly. What is not always realized, but is nevertheless essential, is that some light must be directed at and above the level of the headlamps to enable the driver to see pedestrians and overhead obstructions. Considerably lower intensities, a few hundred candlepower, suffice here, however.

These few hundred candlepower reaching a driver's eyes cause some glare, of that there is no doubt, and the people in approaching cars have no way of avoiding it. But while the glare may be annoying and interfere somewhat with vision, it is not blinding and is not dangerous if the driver keeps his eyes on the road. So it is necessary to differentiate at the beginning between noticeable and dangerous glare.

Almost all of the innumerable devices purporting to solve the glare problem have been designed with the

idea of eliminating or reducing the light which is directed above the level of the headlamp and which is necessary to safety. These have varied in form from diffusing and shielding devices for the bulb, lens, or reflector to complete headlamps. Obviously it is relatively immaterial whether or not the 21 candlepower directly from the bulb is screened out from the several hundred which regulations require you to have.

Official and technical authorities of Europe and America agree that the only way to obtain satisfactory road illumination and at the same time *keep glare below the danger line for all driving* is to employ a dual system of headlighting. On the open road the light is directed well ahead of the car; at other times it is tilted downward so that even under unfavorable conditions the bright beam will not be lifted sufficiently to reach the eyes of other drivers. This lower or tilted beam meets all the requirements in passing other cars, approaching over hills, or traveling on lighted streets.

Depressible-beam headlamps do not eliminate all glare, academically speaking—they couldn't and still be safe. But they do provide the means of keeping the brightness of the lamps so low under all circumstances that they are no longer a menace. And this is more than can ever be expected from any fixed beams—cars and roads being what they are—no matter how skillfully the equipment may be designed and constructed.

The A B C of Dealer Sales Promotion

(Continued from page 27)

Impress your prospect with your building when you get him there. And to get him there you will find it helpful to have a special display or a salon from time to time. Good lighting must be regarded as a requisite of a salesroom that will help you to get business.

The demonstration comes next. This should not be a haphazard affair, but one planned to bring out all the merits of your car. As part of the demonstration, a visit to your service shop suggests itself as a final clincher in your selling talk, if your shop looks like it should look, and is conducted as it should be—clean, well equipped, and giving in its very appearance an impression of competent, efficient work.

It is taken for granted that, during every part of this selling process, those in your store and shop who come into contact with your prospect will be courteous, and that he will be made to realize that your establishment is conducted on a business-like basis throughout.

C AFTER THE SALE.

Although the fact seems to be overlooked by many dealers, it is true that this period offers the best opportunity for effective sales promotion. Beginning with the delivery of the car, you should take care that every detail is calculated to please the buyer. The car should, of course, be clean inside and out. It should be filled with gas and oil and water. It should be thoroughly greased. The tool equipment should be checked. In other words, you should make sure that there is no chance for future complications, due to any negligence at the time of delivering the automobile. This applies to the method of payment for the car, as well as its equipment and mechanical condition.

Some dealers, at the instance of their factories, have

adopted the practice of removing the instruction book from the tool kit and either handing it to the buyer at the time of delivery, or—what seems like a better plan—mailing it to him with a special letter, explaining its use and importance.

This letter can then become the first in a series of friendly, instructive letters to the owner, calling his attention to the vital necessity of lubrication, of changing the oil in the crankcase periodically, of filling the battery with distilled water, and so on, referring in each instance to the instruction book. In addition to this, it is good sales promotion to have your salesmen or a service mechanic call on the owner occasionally. These are not mere gestures. They not only serve to keep the owner happy and satisfied, but they also tend to keep his service trips down to a minimum, whether you use the monthly inspection system or not.

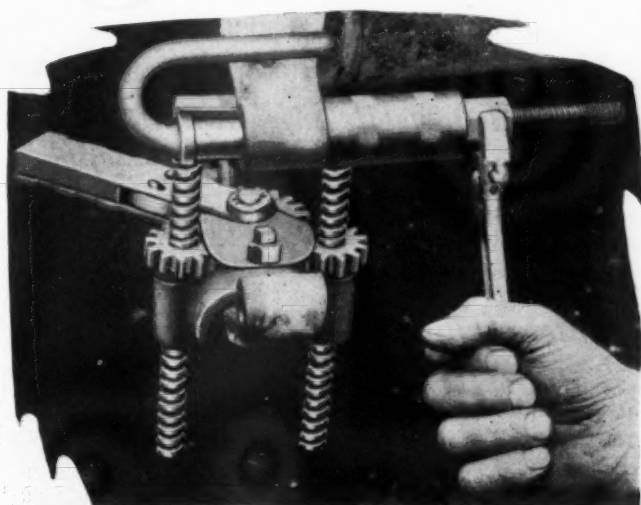
You should regard your service shop itself as an important part of your sales promotion program. Make money out of it, of course, but also have your owners feel that they are getting value received for each dollar they spend in your shop. The flat rate plan will prove very helpful in this respect.

Follow out these policies as thoroughly as you can, and your owners will become your best salesmen.

If all of this sounds Utopian or theoretical, please bear in mind that everything outlined here is being followed by some of the most successful distributors and dealers in the country.

If, on the other hand, it sounds elementary, please understand that that is exactly what it is. It is an elementary outline of the principles of sales promotion. Each one of its elements is worthy of varied and detailed description, and such descriptions will be found in future issues of MOTOR AGE.

Taking the Cussin' Out of Shackle Bolt and Bushing Work



Special bushing tool that removes the old bushing and inserts the new bushing at one operation

A JOB long overlooked and counted as unprofitable is that of rebushing the spring shackles. And this is not surprising when it is remembered that this used to be a long and tedious piece of work.

But times and equipment change. Now, service stations are giving car owners peace of mind and satisfaction by eliminating the squeaks and rattles of the shackles at a price that is low enough to get business and high enough to guarantee profits. Not only does modern equipment make a profit on the labor possible but there is also the bushing and shackle profit, and that is considerable.

Located as they are, where dirt, dust and water are driven into them, the shackles and bushings are bound to wear. Even on cars that are lubricated with great regularity the incessant action of the car works the lubricant out and the grit and moisture get in. So while lubrication will postpone the time when shackles and bushings should be replaced, still, sooner or later, most cars will require this service.

Whether you get this business or not depends to a great extent on your being prepared to handle the work to the advantage of all concerned and your aggressiveness in asking the owners that drive in to let you do that work for them.

Simpleifying the Work

The time was when one end of the car was hoisted, usually a little too much or too little, and the shackles removed. There was no fine adjustment of the amount that the spring and frame could be separated.

Now the use of a special twin-screw spring jack, that accurately and easily spaces the spring and frame, greatly facilitates this work.

Working in conjunction with this tool is a bushing puller or pusher that eliminates all hammering and cussin' in removing the old bushings and putting in the new ones.

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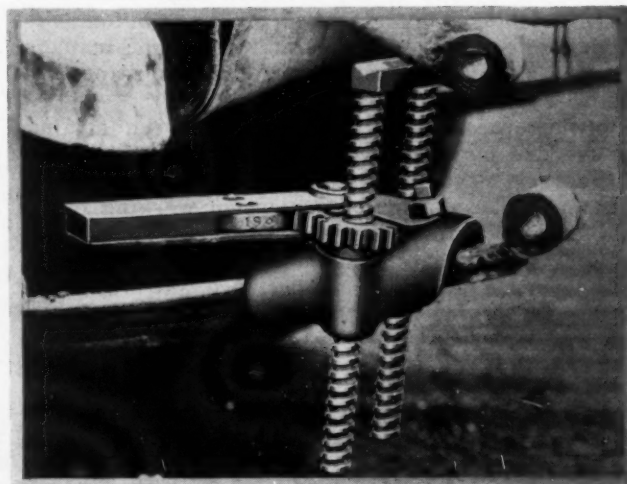
*Twin-Screw Spring Jack Saves the
Mechanic's Quid of Tobacco
From Undue Punishment
and Makes the Task
a Pleasure*

By C. Edward Packer

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Finishing the Job

As the new shackles are put into place in the new bushings all parts should be liberally lubricated. In tightening the nuts on the shackles they should be drawn up tight and then backed one-sixth of a turn in order that they will not bind. To draw them tighter will make the car ride hard and will throw unnecessary strain on all the parts, and to leave them loose will permit grit and moisture to enter too freely.



A twin-screw spring jack for use in servicing the shackles

light. Glare may be anywhere in the range from slightly noticeable to actually blinding and acutely distressing.

Years of experiment and study on the part of those who have lived with the headlighting problem have resulted in a fairly definite knowledge of the amount of light necessary and the distribution of light desirable for adequate road illumination. Where such light is furnished by headlamps located on the car, thousands of candlepower must be directed far down the road, below the level of the headlamps in order that sufficient light be reflected back into the eyes of the driver to form a definite image quickly. What is not always realized, but is nevertheless essential, is that some light must be directed at and above the level of the headlamps to enable the driver to see pedestrians and overhead obstructions. Considerably lower intensities, a few hundred candlepower, suffice here, however.

These few hundred candlepower reaching a driver's eyes cause some glare, of that there is no doubt, and the people in approaching cars have no way of avoiding it. But while the glare may be annoying and interfere somewhat with vision, it is not blinding and is not dangerous if the driver keeps his eyes on the road. So it is necessary to differentiate at the beginning between noticeable and dangerous glare.

Almost all of the innumerable devices purporting to solve the glare problem have been designed with the

idea of eliminating or reducing the light which is directed above the level of the headlamp and which is necessary to safety. These have varied in form from diffusing and shielding devices for the bulb, lens, or reflector to complete headlamps. Obviously it is relatively immaterial whether or not the 21 candlepower directly from the bulb is screened out from the several hundred which regulations require you to have.

Official and technical authorities of Europe and America agree that the only way to obtain satisfactory road illumination and at the same time *keep glare below the danger line for all driving* is to employ a dual system of headlighting. On the open road the light is directed well ahead of the car; at other times it is tilted downward so that even under unfavorable conditions the bright beam will not be lifted sufficiently to reach the eyes of other drivers. This lower or tilted beam meets all the requirements in passing other cars, approaching over hills, or traveling on lighted streets.

Depressible-beam headlamps do not eliminate all glare, academically speaking—they couldn't and still be safe. But they do provide the means of keeping the brightness of the lamps so low under all circumstances that they are no longer a menace. And this is more than can ever be expected from any fixed beams—cars and roads being what they are—no matter how skillfully the equipment may be designed and constructed.

The A B C of Dealer Sales Promotion

(Continued from page 27)

Impress your prospect with your building when you get him there. And to get him there you will find it helpful to have a special display or a salon from time to time. Good lighting must be regarded as a requisite of a salesroom that will help you to get business.

The demonstration comes next. This should not be a haphazard affair, but one planned to bring out all the merits of your car. As part of the demonstration, a visit to your service shop suggests itself as a final clincher in your selling talk, if your shop looks like it should look, and is conducted as it should be—clean, well equipped, and giving in its very appearance an impression of competent, efficient work.

It is taken for granted that, during every part of this selling process, those in your store and shop who come into contact with your prospect will be courteous, and that he will be made to realize that your establishment is conducted on a business-like basis throughout.

C AFTER THE SALE.

Although the fact seems to be overlooked by many dealers, it is true that this period offers the best opportunity for effective sales promotion. Beginning with the delivery of the car, you should take care that every detail is calculated to please the buyer. The car should, of course, be clean inside and out. It should be filled with gas and oil and water. It should be thoroughly greased. The tool equipment should be checked. In other words, you should make sure that there is no chance for future complications, due to any negligence at the time of delivering the automobile. This applies to the method of payment for the car, as well as its equipment and mechanical condition.

Some dealers, at the instance of their factories, have

adopted the practice of removing the instruction book from the tool kit and either handing it to the buyer at the time of delivery, or—what seems like a better plan—mailing it to him with a special letter, explaining its use and importance.

This letter can then become the first in a series of friendly, instructive letters to the owner, calling his attention to the vital necessity of lubrication, of changing the oil in the crankcase periodically, of filling the battery with distilled water, and so on, referring in each instance to the instruction book. In addition to this, it is good sales promotion to have your salesman or a service mechanic call on the owner occasionally. These are not mere gestures. They not only serve to keep the owner happy and satisfied, but they also tend to keep his service trips down to a minimum, whether you use the monthly inspection system or not.

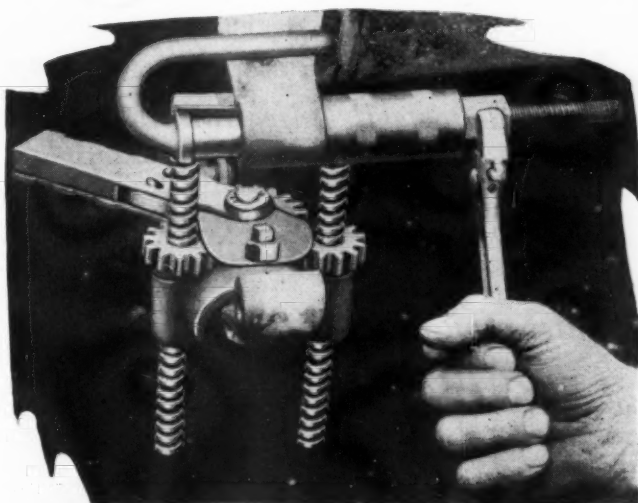
You should regard your service shop itself as an important part of your sales promotion program. Make money out of it, of course, but also have your owners feel that they are getting value received for each dollar they spend in your shop. The flat rate plan will prove very helpful in this respect.

Follow out these policies as thoroughly as you can, and your owners will become your best salesmen.

If all of this sounds Utopian or theoretical, please bear in mind that everything outlined here is being followed by some of the most successful distributors and dealers in the country.

If, on the other hand, it sounds elementary, please understand that that is exactly what it is. It is an elementary outline of the principles of sales promotion. Each one of its elements is worthy of varied and detailed description, and such descriptions will be found in future issues of MOTOR AGE.

Taking the Cussin' Out of Shackle Bolt and Bushing Work



Special bushing tool that removes the old bushing and inserts the new bushing at one operation

A JOB long overlooked and counted as unprofitable is that of rebushing the spring shackles. And this is not surprising when it is remembered that this used to be a long and tedious piece of work.

But times and equipment change. Now, service stations are giving car owners peace of mind and satisfaction by eliminating the squeaks and rattles of the shackles at a price that is low enough to get business and high enough to guarantee profits. Not only does modern equipment make a profit on the labor possible but there is also the bushing and shackle profit, and that is considerable.

Located as they are, where dirt, dust and water are driven into them, the shackles and bushings are bound to wear. Even on cars that are lubricated with great regularity the incessant action of the car works the lubricant out and the grit and moisture get in. So while lubrication will postpone the time when shackles and bushings should be replaced, still, sooner or later, most cars will require this service.

Whether you get this business or not depends to a great extent on your being prepared to handle the work to the advantage of all concerned and your aggressiveness in asking the owners that drive in to let you do that work for them.

Simplifying the Work

The time was when one end of the car was hoisted, usually a little too much or too little, and the shackles removed. There was no fine adjustment of the amount that the spring and frame could be separated.

Now the use of a special twin-screw spring jack, that accurately and easily spaces the spring and frame, greatly facilitates this work.

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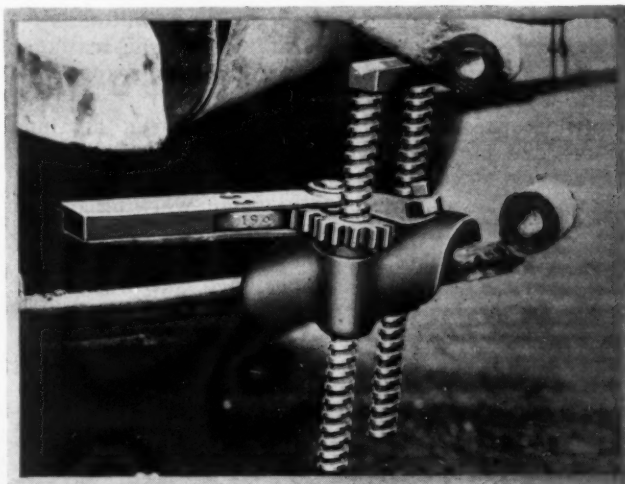
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A twin-screw spring jack for use in servicing the shackles

Do Rouge

Two Members of the Fair Sex Claim Women and Automobile Salesmanship Cannot be Likened to Oil and Water. They Can be Made a Quota-Selling Combination, Both Maintain, if the Woman, in Addition to Sales Ability, Has a Sincere Interest in Automobile Mechanics.

Meet Miss Hildegard Krickow. Now that you are acquainted, let her tell you what she thinks about woman and automobile selling

OH, I know that selling automobiles is one business that men have kept pretty well to themselves," said Miss Hildegard Krickow when asked to tell how she became so successful in what few women have attempted. "But, why shouldn't women sell automobiles as well as life insurance and real estate? There are just lots of sales that a clever woman can make where a man would never get a look-in. And that is no reflection on man's ability either.

"Do you know," she continued, "some men are like a hard-shelled crab with another man, won't give him a gambler's chance to show that he has something. But usually with such a man, a woman can win a hearing without being the least bit forward.

"Then," said Miss Krickow with a decisive snap, "woman must know her stuff!"

That this comely young woman, who is still well on the preferred side of 30, "knows her stuff" can be vouched for by any of the northern Ohio dealers for the Olds Motor Works to whom she sells automobiles in wholesale lots. As assistant to the zone manager at the Cleveland factory branch, she is responsible for the wholesale division.

But her present position has only been attained through the hardest kind of sales and service work with several other automobile factories and dealers. Even now, like the factory salesmen working out of the Cleveland branch, she must be able to help dealers with any particularly difficult retail sales.

Early in her automobile experience, she went right out in the service department, donned jumpers, and mixed grease with powder and rouge. There is nothing masculine about Miss Krickow either. She is distinctly feminine.

"You see, I always liked mechanics," she explained. "So I guess it was the natural thing for me to want to know all about motors when I got my first job with an automobile concern.



Doff your alfalfa or fedora to Mrs. Willard W. Walters. She wanted to succeed at selling motor cars, so first she became an expert mechanic

"Anyway, I wanted to learn the automobile business from the ground up and that is what I started out to do. Once in a while a prospective buyer is inter-

and Grease Mix?

ested in more than a sales knowledge of motors. Winning his confidence then, by showing him you know what you are talking about, is the surest way of closing the sale, I have learned."

On one of her former jobs where she was in charge of both the sales and service departments, she found good use for her mechanical ability. In fact she made many a me-

chanic envious, she could so unerringly locate motor trouble in an automobile by driving it around a few blocks. And her own car, at present, she keeps a model of a perfect working mechanism.

"Yet, the sale of automobiles depends on a great deal more than being intimately familiar with the mechanical details and their merits," said Miss Krickow. "Many men are not deeply interested in technical information further than the number of cylinders, possible speed and such generalities. What they want is to be shown and actually feel a car's performance. From there on it takes salesmanship.

"With women, it is true, the most important point is the upholstery, although they are particularly keen about the body lines; the style. The average woman gives little thought to the durability of the finish and still less consideration to the mechanical construction.

"I do enjoy doing business with women though," she insisted, contrary to the opinion expressed by many professional women, "although it seems to me that the big field for automobile saleswomen is in selling to men."

She kept on seriously. "You know, three of the fundamentals of salesmanship are making enough contacts, building good will and establishing confidence. The first item is a matter of plain work. To win confidence, one must be worthy of it by being painfully honest. After the approach, I really believe it is in building good will that woman has an advantage over man.

"There are so many courteous little things that a saleswoman can do for her prospects in a friendly way that make them want to favor her. For example, I always keep on the lookout for any kind of service I can give our dealers, no matter how trivial it may be. Rather than wait until they ask for help, I try to see the need for it ahead of them.

"I am genuinely sincere, of course. Naturally, they

THE hearty concurrence of automobile dealers in the opinions expressed herewith by two saleswomen is inevitable. The woman who would make a success of selling automobiles must "know her stuff," they both declare. We can hear a universal "Amen" loudly voiced by our readers, for it is wisdom the ladies speak. Any Thomas, Richard or Harry knows that a man can't be ogled into buying a car by a "sweet young thing," and a female buyer certainly wouldn't stand for such improper behavior. Neither will personality and fine feathers alone induce homo Americanus to sign a financing agreement. The saleswoman to make good must be on speaking terms with car performance, with "that black thing under the hood," and with service. In a word, she must know her automotive groceries, else find her way back to the kitchen sink or the hosiery counter.

whose friends have given her the title of "champion automobile saleswoman of the United States." Mrs. Walters' opinion is the result of 10 years' experience as a saleswoman, the early days of which were not without their trials and disappointments.

"I met with surprise and not a little suspicion when I first called on prospects," she admits, "but, thanks to my perseverance and determination to make good, that did not last discouragingly long and I had the satisfaction of seeing myself land prospect after prospect."

Selling motor cars, in her opinion, is one of the most fascinating careers open to women. The work is interesting, and involves less routine than most professions.

During her sales apprenticeship Mrs. Walters was wise enough to grasp the truth that a saleswoman required more than a glib tongue, personality, a knowledge of prices and which car contained the flower vase and which the vanity case. She realized there was more a buyer would want to know about a car than what he could see for himself unless his bifocals had fallen into his soup. So she determined to absorb all the mechanical details in sight and hiding; she worked in a shop.

Among the mechanics Mrs. Walters did not content herself with merely looking on while the men did the work. She donned overalls, insisted that she be considered for the lowliest job and all the while kept her eyes and ears wide open. Her willingness was appreciated and expert mechanics put her wise to the trade.

Today Mrs. Walters is an expert mechanic and largely because of this she is a successful saleswoman.

"My ability to make repairs and adjustments," she says, "is invaluable in salesmanship. I am able to answer questions about car trouble that help me to put over sales. Really, if a woman only knows all her stuff there is no reason why she should not keep up with her male competitors."

are ready to strain a point or so if necessary to help me out when I call on them. The result goes under the name of salesmanship."

A Married Woman Advises

The woman who is desirous of succeeding as a seller of automobiles must be acquainted with the mechanics of a car, according to Mrs. Willard W. Walters, of Indianapolis,

When *is a* Car Sale Not *a*

This is the Question

By a Car Dealer

WE sold a new car to a young woman for \$950, plus \$85.70 worth of extra equipment, making a total price of \$1,035.70. She paid us one-third down, the balance to be spread over 12 months with a finance charge of \$62.50. The total purchase price of the car was, therefore, \$1,096.20. She left a deposit of \$60.00 and paid us \$285.70 on delivery of the car.

After we had delivered the car, the finance company refused to approve the risk. As this happened within three or four days after delivery, there was no financing charge, so the price of the car to the buyer would then have been the cash price of \$1,035.70.

We repossessed the car and offered the young woman the opportunity of financing the purchase through some other company, without recourse to us, or of paying cash for the car. Failing in either of these alternatives, we agreed to handle the deal if she would secure a satisfactory endorsement on the note. She believed her father would endorse it. On condition that she would bring her father in to sign the note within a few days, we allowed her to take the car out again. She failed to keep her promise, so we again repossessed the car.

The car was driven approximately 950 miles during the time she had it. When we allowed her the use of the car the second time, she promised that no one else would drive the car. The following day we saw a man driving the car.

After we repossessed the car the second time, we offered to give her a check for \$138.70, making a loss to her of \$207, that representing the cost of the use of the car. We realize, of course, that this would be regarded as a heavy depreciation but we could no longer sell the car as new.

In addition, she had had the fenders drilled for four lights. This meant we should have to change the fenders and make the best deal we could on the old fenders, this increasing the depreciation.

We told her that if we succeeded in selling the car for more money, we would gladly give her an additional refund check. Beyond that, we could not accept the car on any other basis.

She refused the check and has consulted a lawyer, who says that her loss should not exceed \$150. The car was sold on the basis of an Illinois Conditional Sales Contract.

We wish to know whether this girl has any further recourse on this proposition or whether we are allowed to deduct anything reasonable to take care of selling the car. Also, must we pay the salesman a commission for selling the car to this young woman, and later pay this same salesman or some other salesman for selling the car a second time? Or would you consider that there has been no sale and, therefore, the salesman who sold the car originally would not be entitled to a commission?

Not *a*

*If the dealer foolishly delivers a
and complications ensue—what
the buyer,*

This is the

By Wellington

THE contract might prove your right to recover the car and withhold the deposit. But your statement of the transaction does not fully justify your viewpoint, as a matter in law. Had the deal been consummated and you recovered the car because of failure to pay an instalment, then your actions would be unquestionable.

But there is a question of whether there was a completed agreement, a contract, in law. The rule is that there is no contract binding upon the parties if there is a condition of uncertainty in a material part or provision of the terms of the contract. Goods are sold on the general condition that the seller will accept the credit risk involved. If he refuses to accept the risk, he may refuse to deliver the goods and cancel the order. This is apparently what you have done in this case. Did you not sell the car to the buyer on the condition that a finance company take the risk? If the finance company refused the risk, then you by your acts said there was no sale and went and got your property. If there was no sale, on what grounds do you claim the first payment? And if there was a sale, as you may say, on what grounds do you recover the car? If there was a sale, then there was no breach of the terms of the sales contract, for there were no further payments due and defaulted.

It appears that you indulged the prospective buyer by permitting the use of the car. In law this might not be regarded as damages measured in dollars, but as a mistake in judgment in furthering a business deal.

A contract is never valid so long as there is uncertainty in its terms. Whether the buyer can make a note acceptable to third parties I am inclined to put as such an uncertainty which will permit the seller to recover his property on the grounds of no sale on failure to satisfy. It appears to me you acted under such a belief, as a matter in law. You sold on a condition which the buyer could not satisfy. When it became known that the buyer could not make a satisfactory note, then the buyer failed to comply with the requisite condition imposed in the sales agreement, and you recovered the car.

Sale

*car before the risk is approved—
is the legal status of the dealer,
the salesman?*

Answer

Gustin

because it was your car and had never been sold. In other words, the sale had never been completed. Then if you repudiate the sale by recovering the car, then you must return the prospective purchaser's payment made on the proposed sale.

Now if you are able to show by other and further facts not stated that there was a completed sale and you so treated the transaction, but recovered the car to protect yourself, claiming that buyer had breached his contract, then on showing the breach, you would be entitled to damages caused you by the breach. Damages you could recover are limited to the actual damages or loss you can show.

Finally, let us assume that you executed the ordinary conditional sales contract with your customer, the same calling for a cash payment down and the balance due to be paid in instalments of a specified sum, there being no provision in the contract regarding financing through a third party, as a finance company, or the making of notes acceptable to the seller or anybody else for that matter. In such a case, under such contract, your rights and obligations are limited to the contract of sale and you could not compel the buyer to give you notes acceptable to third parties or even to yourself. The buyer's obligations are limited to making the specified payments. Under such a contract you could not repossess the car except at your own risk of a suit for damages.

So you cannot found your rights to recover the car on such a contract. In a suit by the buyer it will be a serious problem to preclude him limiting your defense to the sales



This is the car



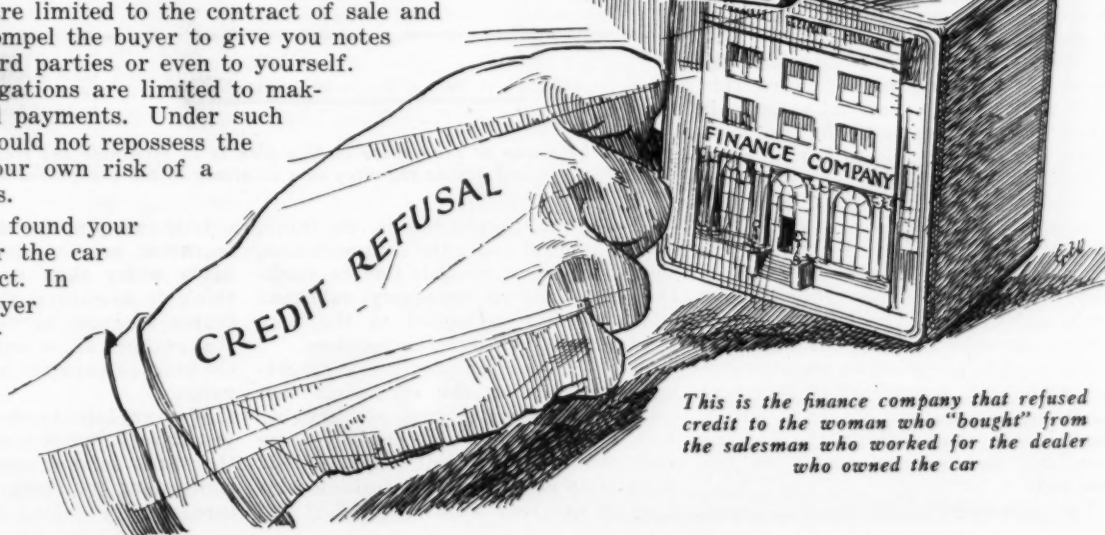
This is the dealer who owned the car



This is the salesman who worked for the dealer who owned the car



This is the woman who "bought" from the salesman who worked for the dealer who owned the car



This is the finance company that refused credit to the woman who "bought" from the salesman who worked for the dealer who owned the car

agreement as written down. But your rights go beyond the conditional sales contract. You must show that the contract, while executed, was not to become operative and in effect until the condition regarding the credit was fulfilled. The rule of law on oral evidence would not permit you to change the written provisions of a contract to show that there was a separate oral agreement concerning the making and delivering of promissory notes. So your rights to recover the car must be founded on the fact that the conditional sales contract was not intended to become, and did not become operative, because of a prior condition not being met and fulfilled.

The condition not having been met, you must declare the negotiations at an end, all agreements void, and recover the car sold. But this means you must return payments made, unless there was an agreement that you should retain certain sums on failure to meet the condition.

Of course, in any event, since you have both the car and payment you have the advantage in an action and perhaps can get, as a compromise, at least a goodly portion of your actual loss in the transaction.

Regarding the salesman's commission, this would depend on your contract with him. But where there are no specific terms to cover the case in the salesman's contract, there are court decisions to the effect that where a salesman has obtained an order which has been refused on the whim of his employer, or for lack of some condition being met without fault of the buyer or salesman, the salesman was entitled to his commission.

Violve is New Swedish Car

A new four-cylinder car known as the "Violve" has been placed on the market in Sweden, the U. S. Department of Commerce has been informed. The prices range from \$1,286 for the touring to \$1,554 for the closed model. The manufacturers intend to compete on a large scale in the European market.

The motor is of approximately 118-in. displacement, the cylinders being 2 15/16 in. by 4 1/3 in. At 2000 r.p.m. this motor develops a brake horsepower of 28, giving a road speed of about 36 m.p.h. The new car has accessories similar to American cars of the same price class.

Rearranging Garage for Showroom, Washrack and Restroom

By Tom Wilder

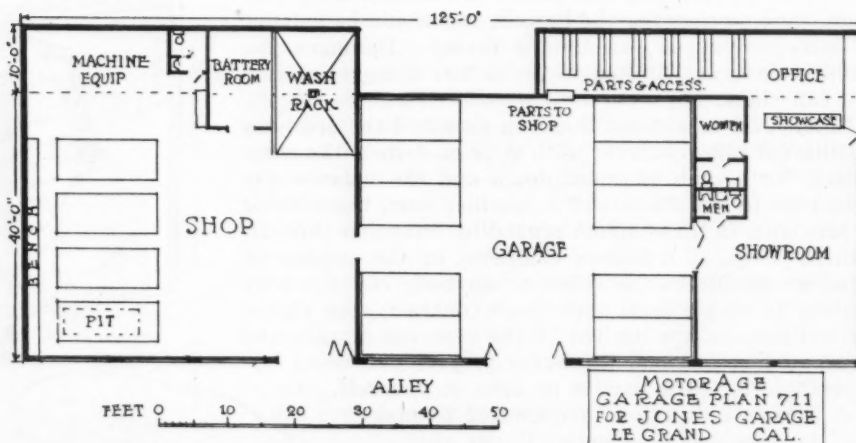
Enclosed you will find cut of garage as it is at present. Would you kindly help me out on plans so that I may have a washrack and a restroom. This must all be on the ground floor. Later I figure on having a car agency and would like to have things arranged beforehand.—Jones Garage, LeGrand, Cal.

YOUR letter does not state whether you intended to use the 10 ft. strip at the side of your building making it 50 ft. wide, or to leave it as it is with the 40 ft. width. We would strongly advise the former procedure since this 10 ft. strip is of no practical value as it is but will add greatly to the ease with which you will be able to handle cars.

We have left a space between the stockroom and the washrack which is unused, but with a doorway from the garage might be turned into a tire service station, welding shop, radiator shop, or any other department that would make your service more complete.

We have done as little cutting away of the outside partition as possible and you might even leave part of this partition in place where we have cut it away in the shop making the battery room and toilet room wholly in the new part.

The arrangement of the stockroom



The best way to save space in this plan is to eliminate the front car entrance and utilize the alley as a driveway to the garage and shop

for parts and accessories is, we think, especially good under the circumstances, since it makes it possible for the stockkeeper to act as accessory salesman while he may be called to the rear window to supply parts to the shop.

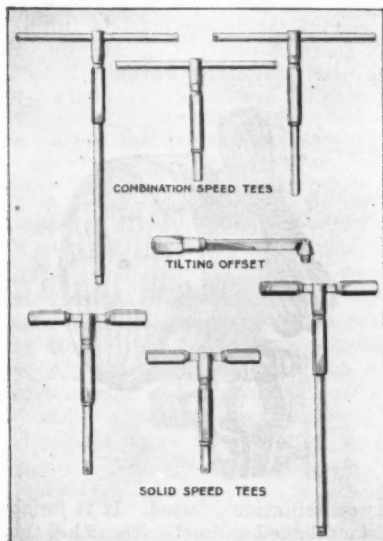
There has been no provision for lighting, not knowing the conditions that exist, but we would suggest skylights over the new part and possibly some over the shop as well, especially if there is no possibility of installing windows in the rear wall.

If the alley at the side of the building is rather narrow, doorways should be made wider than usual. We do not think it necessary to have a car entrance doorway between the shop and the garage, as it will only cut down the storage capacity and be of no great value.

We have left the shop entrance where you have it but it would be better further back so that cars could be stored right along the front wall of the structure.

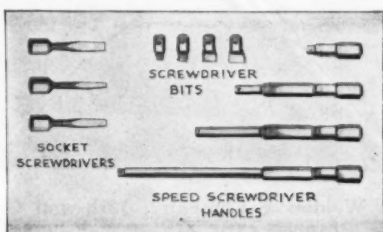
NEW ITEMS *for* SERVICE SHOPS

Additions to Husky Line



SPEED tees and screw driver sets are the latest additions to the products of the Husky Wrench Co. of Milwaukee, Wis.

The speed tees are available in different lengths, as shown, and all have swivel type handles to facilitate handling and to speed up the work. These may be had with the sliding type handle for service work, or with the solid type of handle for production work, or for special purposes. The screw driver



bits fit on any of the regular Husky sets, or may be had with special screw driver handles in lengths from 4 in. to 17 in., varying in price between 75 cents and \$2.15.

Hall Burnishing Tool

A NEW tool for removing the corrosion and sediment from the master and wheel cylinders of hydraulic brakes has been designed and put on the market by the Hall Manufacturing Co., Toledo, Ohio. This new burnishing tool is made in three sizes, with ranges of 1 1/8 in. to 1 7/16 in. to 1 13/16 in. and 1 1/8 in. to 2 1/4 in. The two smaller sizes are of the three stone type and the larger is of the four stone type. The stones are actuated by individual springs from within the tool and while they are easily removable they can not

fall out until released by unscrewing the head of the tool. Besides being used for burnishing hydraulic brake cylinders this tool may be used for burnishing, polishing and enlarging holes in cast iron, aluminum, bronze and hardened steel. The new tools are listed at \$25 for the complete set of three or sold single at \$9 for each of the two smaller sizes and \$10 for the larger.

Fleming Precision Tool Sets

IN addition to individual precision tools the Fleming Machine Co., Worcester, Mass., has recently placed on the market, kits in various degrees of completeness. Four sets are offered. The No. 1361 comprises one 4 in. Inside Caliper; one 4 in. Outside Caliper; one 4 in. Divider; a Slide Caliper Rule; Flexible Steel Rule; No. 1340



4 in. Divider; 6 in. steel rule; thickness gage; Piston fitting thickness gage; thread gage; one No. 1337 Combination Square; one No. 1207 Outside Micrometer Set, range 0-4 in., and one No. 1225 Inside Micrometer Set having a range of 2-5 in. Net list, \$34.50.



Thickness Gage, and No. 1345 Thread Gage. Attractively arranged in velvet padded box. Net list price, \$9.

The No. 1362 set comprises the three calipers as listed for the No. 1361, also the same thickness and thread gages. It also contains the No. 1332 six-inch Steel Rule and the No. 1201 one-inch Outside Micrometer. Net list, \$13.

The No. 1363 kit contains all of the tools listed in describing the No. 1362 except the micrometer which in this set is a number 1206, with a range of from 0 to 2 in. Net list, \$17.

The No. 1364 is known as the Service Managers' Kit. It contains one 4 in. Inside Caliper; 4 in. Outside Caliper;

Lyon Parts Control System

A SERVICE parts storage system arranged in the exact order in which the Chevrolet parts order pad, has been designed by the Lyon Metallic Manufacturing Co. of Aurora, Ill.

This steel bin system is of conventional design. The outstanding feature is the system of storing which keeps the parts not only in order, but also allows for 50 per cent expansion. Each bin allows for a 30 per cent increase in the quantity of parts carried. In addition to that there is space provided for a 20 per cent increase in the number of parts required, as the result of model changes.

In addition to being numbered to conform to the regular Chevrolet monthly parts order system, these bins are shipped in a setup condition ready to receive the parts.

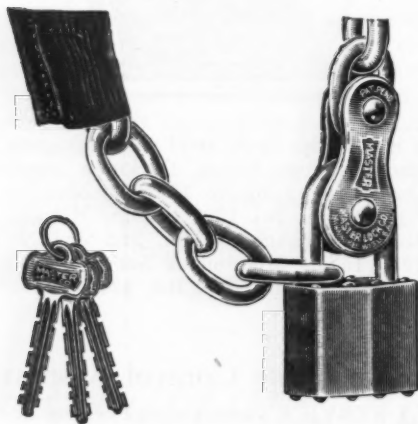
They are made in suitable sizes for Chevrolet parts depots, selected independent garages, associate dealers and authorized Chevrolet dealers. Information on additional systems is available in Bulletin 521C which may be obtained from the Lyon Manufacturing Co.



Some of the LATEST Accessories

Master Tire Lock

EXCEPTIONAL strength and entire freedom from rusting are outstanding features of the new tire locks and chains being put on the market by the Master Lock Co. of Milwaukee, Wis.



The lock is a strong laminated padlock built of steel plate. It is supplied with three keys. A new cadmium process of rust-proofing is used on the inside, as well as on the outside of this lock. These locks are supplied with cadmium-plated chains that may be had in lengths from 24 in. to 42 in.

Buckeye Booster Jack

THIS jack, a product of the Buckeye Jack Mfg. Co., of Alliance, Ohio, is designed especially for cars equipped with balloon tires. It is featured by a combination and adjustable step and slipper extension top. The load is carried on a Timkin roller bearing of large size and guides are provided for the vertical member. It has a one-piece bracket with the



rack and nut operated by an alloy screw. It is a 9 in. jack with a range of 2½ to 17 in. It is provided with a forged steel foldable handle. The base is of the plate type built of steel and the housing of high grade malleable. The capacity is ¾ to 1½ tons and the list price is \$6.

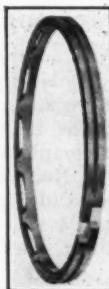
Rain Spot Remover

RAIN spots and stains can easily be removed from nickel plate by means of the rain spot remover and nickel polish manufactured by the Thompson Specialties, Inc., Springfield, Mass. In addition to the foregoing, the

polish will not scratch or injure the nickel, it wipes off quickly, is free from grease and contains no injurious chemicals. In a 5 oz. can, the price is \$.50. In a 10 oz. can, the price is \$.75.

Ventrol Piston Rings

THIS is a one piece ventilated type oil control ring that involves the use of radially drilled holes in the ring groove into which it is installed. The feature is the method of making the slot and vent which permits of step type joint. It is built in all sizes for passenger and commercial cars. All rings are finished with a quick seating outer surface so as to permit of quick running in. These rings are made by the Eco Company, Boston, Mass.



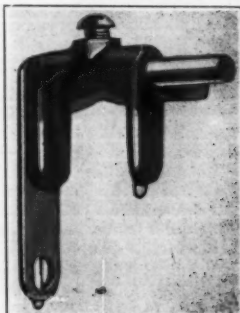
Atlas Pump for Fords

THIS is a centrifugal pump produced by the Atlas Brass Foundry Co., Columbus, Ohio, with its shaft supported in bronze bushings. It is mounted on the Ford fan support and is located so that the standard Ford fan belt may be used to drive it. A grease cup provides lubrication for the bearings. List price is \$4.50 east of the Rockies and \$5 west. The installation can be completed in 20 to 30 minutes, it is stated, and loss of radiator solutions by boiling is prevented. Each pump is packed complete in a carton.



Kreger Fan Belt Guide

THIS fan belt guide is designed by Lawrence F. Kreger, Chicago, for installation on all models of the Ford including the 1925 and 1926 models. It is said to prevent the fan slipping off the lower pulley and is made of iron castings adjustably mounted on a steel arm. Retail price 80c each.



Delta Paralite

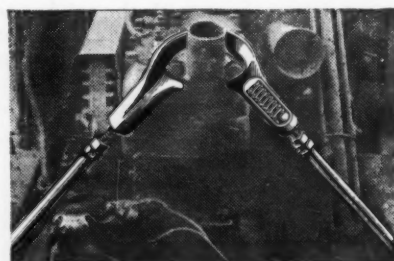
THE Paralite is a new drum type road light being manufactured by the Delta Electric Co., Marion, Ind. The newly patented Paraflex reflector-



lens combination is used. It is finished in black baked enamel with nickel trimmings. It will fit any make of car and lists at \$3.50.

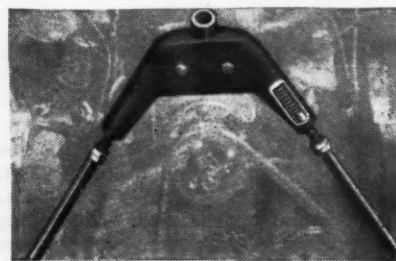
Ford and Chevrolet Engine Stabilizers

ENGINE stabilizers for the purpose of reducing vibration in Ford and Chevrolet cars, are offered in new form



by Weldon & Company, 13th and Oak Sts., Kansas City, Mo.

The Ford stabilizer is very readily put on, as it straddles the upper water connection on the cylinder head and is connected to the frame by means of two arms. The Chevrolet stabilizer is



put on in a similar way, except that the upper hose connection casting is removed and the stabilizer put on in its place. The Ford and Chevrolet stabilizers list at \$3 and \$5 respectively.

READERS' CLEARING HOUSE

Questions and Answers on Dealers' Problems

Tube on the Bearing Stops Oil Leak

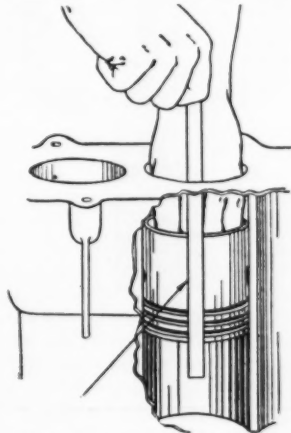
I would like some information on the model 58 Chrysler. This is a 1925 car and leaks oil at the rear main bearing. We have gone over this engine completely and all bearings are properly adjusted. Also the oil drain in the bottom of the bearing is clear and the oil slinger is in place.—E. B. Polk, Polk's Garage, Cheriton, Va.

IF you will remove the rear main bearing cap you will find a hole that has been plugged with lead on this particular model. The Chrysler company can supply a copper tube that can be put in this hole and which will extend down into the sump. The addition of this oil drain tube to the rear main bearing cap will eliminate leakage at that bearing.

Main Bearing Adjustment on Maxwell

I wish to tighten the main bearings on a 1923 Maxwell. I don't know how to go about this and would like to know if it is possible to get at them through the oil pan. Please let me know if it is necessary to pull the engine for this work.—Rasmus Garage, 1273 Clinton St., Buffalo, N. Y.

IN order to adjust the main bearings on the 1923 Maxwell, it is necessary to remove the engine. The front bearing is a sleeve, so naturally could not be replaced without removing the engine. The rear main bearing cannot be reached when the engine is in the chassis. The only main bearing that could be taken up with the engine in the car is the center main and it is seldom advisable to take this bearing up. To do so would probably result in bad misalignment and an unsatisfactory job.



Right way to test piston fit

Essex Piston Clearance

What is the proper clearance in fitting new pistons to the 1925 late model Essex?—W. T. L. TenBroeck, Newburgh, N. Y.

THESE pistons should not be fitted closer than .0025 in.

Excess Oil Consumption

I am servicing a Packard 6 touring car No. U 15504A, engine No. U 15583. This car uses about 1 gal. of oil every 200 miles and I have been unable to find out where it is going. The compression is good, engine does not carbon up badly, timing has been checked and the carburetor adjusted. Are the pistons on this car drilled for oil and have they three rings or four? At slow idling speed there is a dull thumping sound in the engine which is not so noticeable when the car is in motion. This car has only been driven a little over 10,000 miles. Are there bushings in the piston or connecting rod for wrist pins or is there no bushing at all? Would this dull thump at the lowest idling speed be a wrist pin knock? Would there be any advantage in using special oil control rings? Also at 30 miles an hour on a good

road this car develops a singing noise that gets pretty loud at times. What might cause this? It sounds as though it comes from the engine. The timing chain is properly adjusted.—Nance Battery & Electric Service, Brady, Tex.

ENGINE No. V15504-A is a first series six model. If there has been no change in this engine since it left the factory, you will find that it has four rings on each piston. These are of the plain type. The lower ring groove can be drilled for an oil control ring and a special ring fitted. This will probably reduce oil consumption. However, first make sure that the rear main bearing, also the rear camshaft bearing, as well as the valve cover plates are not leaking oil. The best way to check up on the rear main bearing is to raise the front end of the car and run the engine at a speed equal to 40 miles an hour. If in this position, oil leaks from the rear main bearing you may be sure that that bearing is loose. The piston pins are anchored in the pistons and have bronze bushings in the connecting rod. The dull thump is due to the forward camshaft bearing being loose in the case. The singing noise referred to is either the fan or the generator.

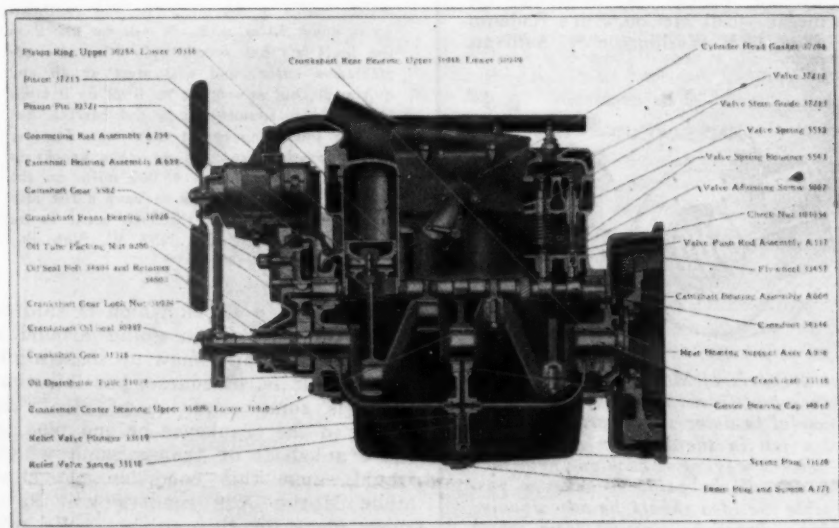
90 M. P. H.?

Through a fellow dealer I sold a 1927 Hudson brougham to a young man who wants to get 90 m. p. h. out of it. Since the Hudson is supposed to be able to travel at this speed, he was greatly disappointed when he found that it would only make 70 m. p. h. This test was made after the car had been run 1500 miles at 20 m. p. h. I have checked the engine over thoroughly and the ignition is O.K. Can you give me some suggestions for getting more speed out of this car?—John Van Ramshorst, Oak Glen, Ill.

IT is true that the new style Hudson car is a very fast one. However, the speed that any car can develop is dependent upon a number of factors. The weight of the body, its shape, the condition of the road, tire pressure, rolling friction of the chassis, and whether or not there is a head wind will make a big difference in the speed attained. It has been our experience that 70 to 75 m.p.h. is about top speed for the model that you refer to. We are sorry to hear that the car was operated at wide open throttle before it was more thoroughly run in as doing so is likely to produce premature wear. We do not know of any practical way of developing the speed that this man wants in that particular model of car.

Count Links or Pins

I recently had occasion to put on new timing chain on an Essex Six and referred to MOTOR AGE of Feb. 17, 1926, on page 23,



READERS' CLEARING HOUSE

where you give the proper setting as 20 pins between timing marks on the two sprockets. In the issue of March 24, 1927, you state that there are 21 links between the timing marks. Which is correct?—W. R. Ross, Avilla, Ind.

BOTH are correct. If you do not count the pins in line with the timing marks you will find that there are a certain number of pins in between. Then if you count the links you will find that there is one more link than the number of pins. If you will make a little sketch on a piece of paper and put down the pins and count them and then count the spaces between the pins you will find out how this works.

Chandler Speed Question

I would like to get some information on the 1927 model Chandler standard six sedan. What I want to know is the maximum brake horsepower, gear ratio, maximum engine speed and the maximum road speed of this car?—Lester Kampmeier, 1707 Central Ave., Kansas City, Kan.

WE are told by the Chandler company that the standard six sedan has a maximum road speed of 55 m.p.h. and that the engine develops 45 brake horsepower. From this road speed we figure the maximum engine speed. The gear ratio on this car is 4.9 to 1 and as the 30-in. tires are standard equipment the engine would turn up 3036 r.p.m. when the car is doing 55 m.p.h.

How Far to Rebore

We have a 1925 standard Buick with 3-in. bore. The block has been reground once to eighty-thousandths and I am thinking of regrounding it again. Would you advise grinding this to $3\frac{1}{4}$ in. and installing Lynite pistons. If the block is reground this much what will be the thickness of the cylinder wall?—Harry E. Brinson, P. O. Box 426, Oilton, Okla.

IT is not considered good practice to regrind to the extent that you have in mind. We cannot say exactly how thick the cylinder walls would be as this would vary slightly with different castings, but we are advised by the factory branch of the Buick Motor Co., that regrinding to .125 in. would make the engine produce too much power for its own good. That is, the bearings and all parts are designed for 3 in. bore and enlarging it $\frac{1}{4}$ in. would throw the design out of proportion. In the regrinding it is not likely that you would go through the wall, but the wall would be so thin that it would not have proper strength.

Toe-In for Rear Wheels?

What is the correct toe-in of Buick rear wheels and what is the correct way to measure this toe-in?—W. L. T., TenBroeck, Newburgh, N. Y.

THE rear wheels of automobiles should not toe-in. They should be perfectly straight. It is rather difficult, due to the number of things in the way to measure the alignment of the rear wheels. A special gage for handling this job is described on page 26 of the May 12, 1927 issue of MOTOR AGE.



An ideal valve seat

What Angle is Right for Valve Seat?

What is the correct angle of valve seat reamers to use in narrowing down valve seats, and is it necessary to have two special reamers for this work, or is one sufficient? Please give me the addresses of some companies making these reamers.—J. G. Thompson, Ladora, Iowa.

IN general practice you will find that 45 deg. is the angle at which the

valve seat is finished. In order to reduce the width of the seat a pair of reamers of 15 and 70 deg. angle are used. We do not mean by this that other reamers of about this angle are unsuitable. We have heard of one concern that tries to take the three cuts at one time but you will appreciate that in order to do that the exact size of the seat must be known or the wrong angle is likely to come into play at the wrong time. In general, you will find it much more satisfactory to have three reamers for finishing up the valve seat. The addresses of manufacturers will be given by separate letter.

Car Locks Without the Lock

We have a Hudson Super-Six, 1923 model, that was built in 1922. This has the motor which was new at that time and which uses the ball shift type of transmission with lock built in. The trouble we are having is when we stop it, it will lock in high gear but not by the lock. By this we mean that something on the inside seems to stick and the trouble is not in the regular locking mechanism. The only way we can get it out is to remove the shifting lever and push the gears out of mesh. It will then shift all right, but may stick again at any time. Everything appears to be O.K. but this trouble keeps repeating.—Elmer Motsinger, 915 S. Carrol St., South Bend, Ind.

THE particular model of Hudson that you refer to has the shifter ball pressed onto a knurled section on the shifter lever. Some of these jobs worked loose in service and the result was that the shifter lever would slide up and out of engagement with the shifter shaft in the transmission and then jam. We believe that if you remove this part you can have the ball brazed into place satisfactorily.

Knocks on a Curve

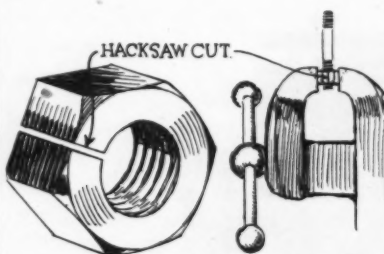
We have an Essex 4-23 with a slight knock which begins at 40 m. p. h. and continues up to about 50 m. p. h. It will not knock on the level at that speed, only when we are making a curve, and will start at 40 and quit at 50, but as soon as we level up it stops instantly. It sounds like a rod bearing, but I never knew one to act this way. The car runs fine otherwise with no other knocks in it and has been driven 45,000 miles on the speedometer. Would like to have a list also of the various knocks that can occur in an engine.—William Brier, 3437 W. 56th St., Cleveland, Ohio.

USUALLY a knock which is said to occur only when going around a curve will actually show up in straight driving. It is, of course, possible that there is some condition of strain or weave in the crankcase or end play in the crankshaft or transmission which would cause this condition. Perhaps other MOTOR AGE readers will have some ideas on this subject. We are sending you the list of engine knocks in accordance with your request.

SHOP KINKS

Ideas that have proved useful

To hold a stud or the threaded end of a bolt in a vise, I saw through one side of a nut with a hack saw and put the nut on the thread. The split nut can then be clamped firmly in a vise which holds the stud securely without danger of injuring the thread.—Bill McCou, Bill's Radiator Shop, 14 E. Washington St., Sullivan, Ind.



Readers of MOTOR AGE are invited to submit ideas that they have found useful in doing some particular service job in the shop in a better or quicker way. For each one published \$2.00 will be paid. Whenever possible the idea should be accompanied by a sketch or diagram from which a drawing can be made.

Answers to Electrical Questions

Check Timing to Stop the Knocking

Please advise us what can be wrong with a Dodge Brothers, 1927 coupe that has a fuel or carbon knock as soon as it warms up. This car has been driven about 2500 miles and the carbon has been taken out twice and so far as we can tell the ignition is timed correctly. This car has good compression and pulls well. When in high gear at 10 m. p. h. it will not knock even with open throttle, but will knock when it gets up to 18 m. p. h. This knock continues until a speed of 30 m. p. h. is reached. Removing the carbon does not help. Could it be that the springs on the automatic advance are too weak and advance too far at this speed?—Fred R. Shoettger, Burton, Neb.

FIRST of all it would be a good thing to check the timing of your car against the following instructions: Breaker contacts begin to separate when the piston entering power stroke reaches a position 8 deg. past top dead center (measured on the flywheel), with the spark control lever in the fully retarded position. To check timing, retard spark lever and crank engine until piston No. 1 enters compression stroke. This is the upward stroke of the piston with both valves closed, and may be checked by removing the spark plug and holding the thumb over the opening when the escaping air can be felt. Crank engine until piston reaches top dead center. On cars with ignition marking on flywheel, this point can be checked by observing the flywheel marking through the peep hole on the flywheel case. The peep hole is on the front of the flywheel case at the front of the engine. The top dead center mark is C/1-4. Then crank engine over 8 deg. until the ignition marking (I) on the flywheel is opposite the mark on the edge of the flywheel case.

At this point the exhaust valve in cylinder No. 4 is just closing and ignition can be set from this, on cars without flywheel markings. The breaker contacts should just begin to separate at this point.

To set timing, loosen clamp screw in manual advance rod and turn distributor until oil cup is approximately above advance rod arm. Then tighten clamp screw and loosen mounting set screw. Lift distributor and disengage gears. Then rotate rotor button until it reaches a position just coming into line with segment connected to spark plug in cylinder No. 1. Remesh gears and tighten set screw. Then loosen clamp screw again and turn distributor until breaker contacts just begin to separate. Tighten the clamp screw. With proper setting of the contacts, breaker contacts will open by rocking the distributor rotor the backlash of the gears being sufficient for this purpose.

Note: From Reed's Service Manual.

The automatic advance should begin to operate at about the moment that the engine begins to run. It seems in your case that the automatic instead of being too weak is either sticking or has springs that are too stiff and to offset this the spark may have been advanced slightly. Then when the automatic goes into action there is entirely too much advance with the result that detonation occurs. Should the trouble continue after the check-up we have suggested the automatic advance unit should be removed and sent to the factory or a factory branch for a check-up as it takes special equipment to do this.

backward motion of the column of water.

Now looking at the electrical application of the condenser we have current flowing from the battery through a coil and through the contact points and back to the battery by way of a return circuit. When the contact points are suddenly opened, the tendency is for the current to continue to travel across the opening. This is commonly referred to as arcing at the points. To prevent this, a condenser is connected across the points as shown. The result is that when the points open the tendency is for the current to flow through the condenser. However, like the water, the electricity cannot get through the condenser. The kick back or discharge from the condenser reverses the current in the coil and helps break down the magnetic field much more quickly than it would otherwise break down.

You will then see that there are two distinct functions which the condenser performs. The first is that it prevents arcing at the points and thus prolongs their life. The second is that a good condenser produces a much hotter spark due to the more rapid breaking down of the magnetic circuit.

The typical ignition condenser is made up of alternate layers of tinfoil and insulating material—generally a wax impregnated paper. The alternate tinfoil sheets are connected to leads or terminals which are connected in parallel with the ignition points.

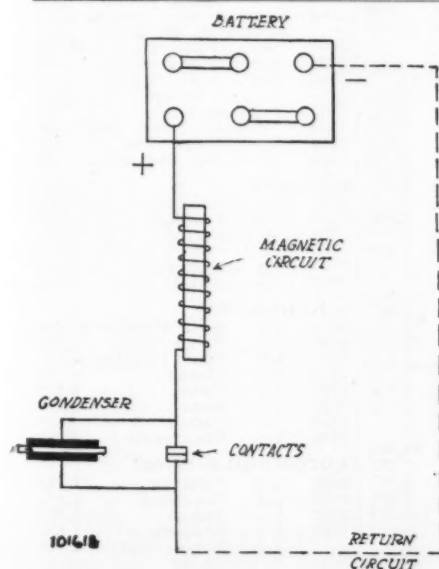
Some of the more expensive makes of condensers use insulation known as "empire cloth." This is a fabric impregnated with a substance that gives it great dielectric strength.

Condenser Action Explained

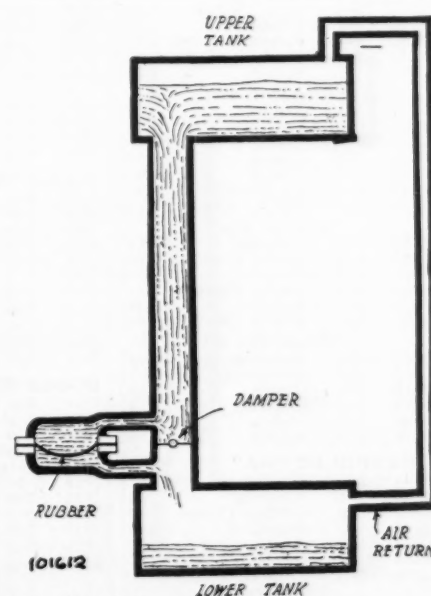
Please explain just how a condenser works and why it is used. I refer to the condenser used on the regular automobile ignition system. —Akron Repairman, 1130 Lovers Lane, Akron, Ohio.

BRIEFLY, a condenser acts much like a shock absorber and takes up the strain that is imposed on the electrical circuit by the sudden opening of a pair of breaker points.

This can be understood by looking at the illustration which shows the condenser principle as worked out in a water circuit. Here we have water flowing from the upper tank down past a damper. To the left of the damper is an elastic rubber diaphragm which is water tight. If the damper is suddenly closed the water flows into the diaphragm chamber. It cannot get through the diaphragm but springs it down. This checks the flow of water gradually and then, due to the elasticity of the diaphragm, there is a slight



Electrical circuit showing use of condenser



Water analogy of circuit using condenser

Prices and Weights of Current Passenger Car Models

SHIP WT.	PASS.	BODY STYLE	PRICE	SHIP WT.	PASS.	BODY STYLE	PRICE	SHIP WT.	PASS.	BODY STYLE	PRICE	SHIP WT.	PASS.	BODY STYLE	PRICE
AUBURN "6-66"				CHRYSLER "50"				DU PONT "E"				"Custombuilt"			
....	2-4-p	Roadster	\$1,095	2145	5-p	Touring	\$ 750	3700	4-p	Roadster	\$2,800	3480	2-p	Roadster	\$1,500
....	5-p	Touring	1,145	2025	2-p	Roadster	750	3850	5-p	Touring	2,800	3565	7-p	Phaeton	1,600
3040	5-p	Sport Sedan	1,195	2130	2-4-p	Roadster	795	3850	4-p	Coupe	3,200	3660	4-p	Brougham	1,575
3080	5-p	Sedan	1,295	2230	2-p	Coupe	750	4100	5-p	Sedan	3,400	3755	5-p	Sedan	1,750
3040	5-p	Wanderer Se'n	1,345	2235	5-p	Coach	780	4100	5-p	Conv't Sedan	3,750	3870	7-p	Sedan	1,850
"8-77"				2410	5-p	Sedan	830	ELCAR "6-70"				HUPMOBILE "A-1"			
....	2-p	Roadster	\$1,395	2350	5-p	Landau Se'n	885	....	5-7-p	Touring	\$1,275	2620	5-p	Touring	\$1,325
....	5-p	Touring	1,445	2570	5-p	Touring	\$1,075	2580	4-p	Lan. R'dster	1,475	2660	2-4-p	Roadster	1,385
3350	5-p	Sport Sedan	1,495	2545	2-p	Roadster	1,145	2670	4-p	Brougham	1,295	2800	5-p	Sedan	1,385
3390	5-p	Sedan	1,695	2615	2-4-p	Roadster	1,175	2750	5-p	Sedan	1,395	2800	2-4-p	Coupe	1,385
3390	5-p	Wanderer Se'n	1,745	2690	2-p	Coupe	1,125	....	5-p	"8-82"	\$1,645	2890	5-p	Brougham	1,385
"8-88" (129 in. W. B.)				2685	3-5-p	Coupe	1,245	3320	2-4-p	Touring	\$1,870	"E-3"			
3180	4-p	Sp. Roadster	\$1,995	2795	5-p	Coach†	1,145	3410	5-p	Land. R'dster	1,790	3300	5-p	Touring	\$1,945
3200	5-p	Touring	2,045	2835	5-p	Sedan	1,245	3490	5-p	Brougham	1,595	3360	7-p	Touring	2,045
....	7-p	Touring	2,295	2845	2-4-p	Roadster	\$1,495	3675	7-p	Land. R'ster	\$2,465	3355	2-4-p	Roadster	2,045
3380	5-p	Sport Sedan	2,095	2930	5-p	Phaeton	1,395	3620	2-4-p	Land. R'ster	2,295	3465	2-4-p	Coupe	2,345
3450	5-p	Sedan	2,195	2905	5-p	Sp. Phaeton	1,495	3710	5-p	Brougham	2,195	3515	5-p	Brougham	2,245
3450	5-p	Wanderer	2,245	2905	4-p	Coupe	1,595	3895	5-p	Sedan	2,465	3545	5-p	Sedan	2,345
(146 in. W. B.)				3000	2-4-p	Royal Coupe	1,545	4245	7-p	Sedan	2,765	3525	5-p	Victoria	2,345
4200	7-p	Sedan	\$2,595	3090	5-p	Brougham	1,525	....	5-p	Sedan	2,265	3360	7-p	Sedan	2,495
BUICK "115"				3150	5-p	Royal Sedan	1,595	ERSKINE "6"				JORDAN "R"			
2990	2-4-p	Roadster	\$1,195	3160	5-p	Crown Sedan	1,795	2300	5-p	Tourer	\$ 945	....	4-p	Sport Salon	\$1,595
3040	5-p	Touring	1,225	3765	5-p	Phaeton	\$2,495	2265	2-p	Bus. Coupe	945	....	2-4-p	Tomboy	1,595
3110	2-4-p	Coupe	1,195	3805	2-4-p	Roadster	2,595	2400	5-p	Cus. Sedan	995	....	5-p	Sedan	1,595
3215	5-p	2d. Sedan	1,195	4110	5-p	Coupe	3,095	2330	2-4-p	Sport Coupe	995	"J-1"			
3190	4-p	Coupe	1,275	....	5-p	Sedan	2,675	....	5-p	Sedan	2,465	2915	4-p	Playboy Rd.	\$1,545
3190	2-p	Spec. Coupe	1,275	4055	5-p	Sedan	3,095	....	5-p	Sedan	2,465	3070	2-4-p	Sport Coupe	1,695
3300	5-p	4d. Sedan	1,295	....	5-p	(192½ in.)*	....	....	5-p	Sedan	2,465	3200	4-p	Cus. Victoria	1,695
3305	5-p	Town Bro'm	1,375	4090	4-p	Coupe	\$2,895	ESSEX "Super Six"				3200	5-p	Cus. Sedan	1,695
"120"				4025	2-p	Cabriolet	3,495	2150	2-p	Speedabout	\$ 700	Series "AA"			
3800	4-p	Coupe	\$1,465	....	5-p	(198½ in.)*	....	2230	4-p	Speedster	785	3470	5-p	Cus. Sedan	\$2,495
3750	5-p	2d. Sedan	1,395	....	5-p	Sportif	\$3,995	2450	5-p	Coach	735	3470	4-p	Cus. Victoria	2,495
3870	5-p	4d. Sedan	1,495	4195	7-p	Sedan	3,295	2340	2-p	Coupe	735	KISSEL "6-55"			
"128"				4370	7-p	Sedan Lim.	3,595	2530	5-p	Sedan 4d	795	(124 in. W. B.)			
3655	2-4-p	Sp. Roadster	\$1,495	4432	5-p	Town Car	5,495	2490	5-p	Sedan DeL.	895	3020	5-p	Phaeton	\$1,685
3735	4-p	Sp. Touring	1,525	†Cloth Upholstery. Leather at extra cost.				FALCON KNIGHT				3160	4-p	Speedster	1,895
3905	3-p	Country Club	1,765	*Overall length.				....	....	Roadster	....	3483	4-p	Coupe R'dster	1,895
3940	5-p	Coupe	1,850	CUNNINGHAM "V-7"				....	....	Touring	....	3300	5-p	Brougham	1,695
3915	3-5-p	Conv't Coupe	1,925	4500	4-p	Sp. Touring	\$6,150	....	....	Coupe	....	3486	5-p	Spec. Bro'm	1,795
4050	5-p	Brough. Sedan	1,925	4600	7-p	Touring	6,650	....	....	Landau	....	3440	5-p	Bro'm Se'n	1,895
4115	7-p	Sedan	1,995	4700	4-p	Coupe	7,600	....	5-p	Brougham	\$ 995	3378	5-p	Conv't Bro'm	2,295
CADILLAC "314" Standard Line				5000	6-p	Limousine	8,100	....	5-p	Sedan	1,095	(131 in. W. B.)			
(132 in. W. B.)				DAGMAR "6-70"				2525	5-p	Coach	\$ 795	3660	7-p	Touring	\$1,785
4170	5-p	Brougham	\$2,995	3750	4-p	Roadster	\$3,500	2580	5-p	DeL. Coach	895	3225	4-p	Tourster	1,895
4105	2-p	Coupe	3,100	3800	4-p	Sp. Tourer	3,500	FLINT "Z-18"				3596	5-p	Spec. Bro'm	2,095
4190	5-p	Victoria	3,195	3700	4-p	Phaeton	3,500	2750	5-p	Touring	\$1,250	3770	7-p	Sedan	2,295
4270	5-p	Sedan	3,250	4200	4-p	Petite Coupe	4,500	2885	4-p	Sp. Roadster	1,350	"8-65" (125 in. W. B.)			
4460	2-p	Sport Coupe	3,500	4200	4-p	Petite Sedan	4,500	2890	4-p	Coupe R'dster	1,395	3240	5-p	Phaeton	\$1,885
4590	5-p	Sport Sedan	3,650	4500	4-p	De L. Coupe	4,750	3030	5-p	Sedan 4d	1,395	3155	4-p	Speedster	2,095
(138 in. W. B.)				4700	5-p	Sedan	4,700	3010	5-p	Brougham	1,395	3343	4-p	Coupe R'dster	2,095
4420	7-p	Sedan	\$3,400	4800	7-p	Sedan	4,750	"80" (120 in. W. B.)				3330	5-p	Brougham	1,895
4480	7-p	Imperial	3,535	3150	5-p	Touring	\$1,785	3245	5-p	Touring	\$1,450	3345	5-p	Spec. Bro'm	1,995
Custom Built (132 in. W. B.)				3100	2-p	Roadster	1,985	3395	4-p	Sp. Touring	1,595	3400	5-p	Bro'm Sedan	2,095
4220	2-p	Roadster	\$3,350	3200	4-p	Sp. Touring	1,985	3500	4-p	Coupe	1,795	3518	5-p	Conv't Bro'm	2,495
4300	2-p	Conv't Coupe	3,450	3500	5-p	Sedan	2,445	3625	5-p	Sedan	1,850	(132 in. W. B.)			
(138 in. W. B.)				DAVIS "92-27"				3470	7-p	Touring	\$1,595	3360	7-p	Touring	\$1,985
4285	7-p	Touring	\$3,450	2915	5-p	Legion. Tour.	\$1,395	3780	7-p	Sedan	2,050	3155	4-p	Tourster	2,095
4275	4-p	Phaeton	3,450	3000	5-p	Sedan	1,595	FORD "T"				3455	5-p	Spec. Bro'm	2,295
4705	4-p	Sp. Phaeton	3,975	3055	5-p	Imperial Se'n	1,795	1658	2-p	Runabout	\$ 360	3630	7-p	Sedan	2,495
4465	5-p	Coupe	3,855	"94-27"				1732	5-p	Touring	380	3220	5-p	Phaeton	\$2,185
4465	5-p	Sedan	3,995	2350	5-p	Roadster	\$1,245	1820	2-p	Coupe	485	3360	4-p	Speedster	2,395
4580	7-p	Suburban	4,125	2500	5-p	Touring	1,285	1950	5-p	Tudor Sedan	495	3578	4-p	Coupe R'dster	2,395
4615	7-p	Imperial	4,350	2375	3-p	Coupe	1,285	2002	5-p	Fordor Sedan	545	3565	5-p	Brougham	2,195
CHANDLER "Big Six"				2575	5-p	Imp. Sedan	1,385	FRANKLIN "11-B"				3671	5-p	Spec. Bro'm	2,295
3200	2-4-p	Roadster	\$1,695	3050	5-p	Touring	\$1,795	3015	3-p	Sport Road.	\$2,690	3760	5-p	Bro'm Sedan	2,395
3360	7-p	Touring	1,695	3000	4-p	Polo R'dster	1,795	2975	5-p	Touring	2,635	3863	5-p	Conv't Bro'm	2,795
3570	5-p	Met. Sedan	1,595	3150	4-p	Princess Cp.	1,865	3105	3-p	Coupe	2,490	3630	7-p	Touring	\$2,285
3485	4-p	Coupe	1,675	3200	5-p	Emperor Se'n	1,885	3150	3-5-p	Coupe	2,565	3335	4-p	Tourster	2,395
3435	3-p	Country Club	1,675	DIANA "St. 8"				3230	5-p	Sedan	2,790	3755	5-p	Spec. Bro'm	2,595
3570	5-p	De Luxe Se'n	1,695	....	5-p	Phaeton	\$1,595	3165	4-p	Victoria	2,440	3975	7-p	Sedan	2,795
3725	7-p	Sedan	1,895	2995	5-p	Roadster	1,645	3230	5-7-p	Sedan	2,840	3910	5-p	Bro. Sed; DeL.	\$2,985
"Standard Six"				2995	5-p	Palm B. Rdstr	1,795	3305	4-p	Oxford Sedan	2,815	4080	7-p	Sedan DeL.	3,495
2475	5-p	Touring	\$ 945	3336	7-p	Touring	1,995	3360	7-p	Sp. Sedan	2,910	4125	7-p	Ber. Sed; DeL.	3,585
2565	5-p	De Luxe Tour.	1,005	3170	5-p	DeL. Bro'm	1,695	....	....	Limousine	2,990	LASALLE			
2470	2-4-p	Sport R'dster	1,135	3275	5-p	De L. Sedan	1,995	....	....	Collap. Coupe	2,925	3702	2-4-p	Roadster	\$2,525
2740	5-p	Sedan	995	3160	5-p	Cabriolet	1,995	....	....	Tandem Spt.	3,150	3716	4-p	Phaeton	2,495
2630	2-p	Coupe	1,035	3640	7-p	Sedan (135 in. W. B.)	2,695	GARDNER "80"				3834	2-4-p	Coupe	2,585
2740	5-p	De Luxe Se'n	1,095	3640	7-p	Berline Sedan	2,895	3030	4-p	Roadster	\$1,395	....	2-4-p	Conv't Coupe	2,635
2630	2-p	De L. Coupe	1,125	3640	5-p	Town Car	5,000	3030	4-p	R'dster DeL.	1,495	3795	4-p	Victoria	2,635
"Special Six"				2439	2-p	Roadster	\$ 795	3375	5-p	Bro'm Coupe	1,695	4063	5-p	Sedan	2,685
2890	5-p	Touring	\$1,145	2530	2-p	Spec. R'dster.	845	3375	4-p	Victoria Cp.	1,695	LINCOLN "8"			
2940	5-p	Sport Touring	1,295	2584	5-p	Touring	795	3370	5-p	Sedan	1,695	3702	2-4-p	Roadster	\$2,525
3050	2-p	Coupe	1,195	2679	5-p	Spec. Touring	845	3375	5-p	Sedan DeL.	1,795	3716	4-p	Phaeton	2,495
3050	2-p	De L. Coupe	1,285	2646	2-4-p	Sport Rds.	975								

Prices and Weights of Current Passenger Car Models

SHIP WT.	PASS.	BODY STYLE	PRICE	SHIP WT.	PASS.	BODY STYLE	PRICE	SHIP WT.	PASS.	BODY STYLE	PRICE	SHIP WT.	PASS.	BODY STYLE	PRICE
"90"															
4475	4-p	Sportif	\$5,900	3550	5-p	Sedan 2d.	\$1,425	2950	5-p	"6-80"	\$1,395	STEARNS-KNIGHT "F 6-85"			
4370	4-p	Roadster	5,900	3650	5-p	Sedan	1,525	3025	2-4-p	Phaeton	1,495	4185	4-p	Roadster	\$3,250
4680	4-p	Victoria Coupe	6,950	3580	4-p	Spec. Sedan	1,695	...	2-4-p	Roadster	1,565	4285	4-p	Touring	3,250
4842	5-p	Victoria Se'n	7,300	3480	7-p	(127 in. W. B.) Touring	\$1,490	3120	2-4-p	Coupe R'dster	1,565	4250	4-p	Cab-Roadster	3,450
4615	7-p	Cabriolet	7,500	3500	5-p	Sp. Touring	1,540	3100	5-p	Sedan 2d.	1,395	4407	4-p	Coupe	3,350
4930	7-p	Suburban	7,500	3640	4-p	Victoria	1,790	3290	5-p	Std. Sedan	1,595	4515	5-p	Std. Sedan	3,350
4615	7-p	Brougham	7,500	3750	5-p	Coupe	1,990	...	...	Sport Sedan	1,795	4640	7-p	Sedan	3,550
LOCOMOBILE "48"				3800	5-p	Amb. Sed.	2,090	3140	5-p	DeL. Sedan	1,795	4650	5-p	Std. Sed. Lim.	3,550
5030	4-p	Sportif	\$ 7,460	3830	7-p	Sedan	2,090	...	5-p	"6-90"	\$1,695	4800	7-p	Sedan Lim.	3,750
5330	7-p	Touring	7,460	OAKLAND "6"				...	4-p	Phaeton	1,695	...	4-p	"G-885"	\$3,850
5640	7-p	Touring Lim.	9,500	2500	5-p	Touring	\$1,025	3260	4-p	Sport R'ster	1,695	4633	4-p	Touring	3,850
5600	5-p	Victoria Sed.	10,050	2590	4-p	Sp. R'dster	1,175	...	4-p	Coupe	1,725	4717	4-p	Cab. Roadster	4,250
5464	6-p	Brougham	10,040	2620	5-p	Sp. Phaeton	1,095	3410	5-p	Sedan	1,895	4882	4-p	Coupe	4,250
5868	7-p	Enc. Dr. Lim.	10,050	2745	5-p	2d. Sedan	1,095	3460	5-p	Landaulet	1,995	4934	5-p	Sedan	4,250
5624	7-p	Cabriolet	10,300	2705	3-p	Landau Cp.	1,125	"8-69" (133 1/2 in. W. B.)				5027	7-p	Sedan	4,450
McFARLAN "TV"				2855	5-p	4d. Sedan	1,195	3850	2-4-p	Roadster	\$2,995	...	7-p	Limousine	4,650
4000	2-p	Roadster	\$5,400	2885	5-p	Landau-Se'n	1,295	...	7-p	Sedan	3,095	...	5-p	Sedan Lim.	4,550
4600	4-p	Sp. Touring	5,600	OLDSMOBILE "30E"				4125	5-p	Sedan	3,495	STUDEBAKER "Std. Six"			
4900	4-p	Coupe	6,720	2490	5-p	Sp. Touring	\$ 980	4200	7-p	Sedan	3,595	2880	3-p	Du. Roadster	\$1,160
5200	4-p	Tour. Sedan	6,720	2317	4-p	DeL. Roadster	975	4275	5-p	Ber. Lim.	3,795	3080	5-p	Cus. Tourer	1,165
...	6-p	Sedan	6,720	2450	2-p	Coupe	925	...	5-p	(126 in. W. B.) Coupe	\$2,795	2945	3-p	Sport Roadster	1,195
...	7-p	Sedan	6,810	2570	5-p	Sedan 2d.	950	4050	5-p	Sedan	2,995	3105	5-p	Du. Phaeton	1,195
...	7-p	Spec. Sedan	6,810	2538	2-p	DeLuxe Coupe	990	PIERCE-ARROW "80"				3090	7-p	Cus. Tourer	1,245
...	7-p	Enc. Sedan	7,110	2650	4-p	Sp. Coupe	1,035	3285	2-p	Runabout	\$2,495	2875	3-p	Country Club	1,295
...	7-p	Sub. Sedan	7,110	2720	5-p	DeL. Sedan	1,050	3300	4-p	Phaeton	3,095	3115	5-p	Coach	1,230
5200	7-p	Town Car	9,000	2625	5-p	Sedan 4d.	1,025	3440	7-p	Phaeton	2,895	3235	5-p	Custom Sedan	1,335
"Straight 8"				2780	5-p	De L. Sedan	1,125	3470	5-p	Brougham	2,495	3165	4-p	Cus. Victoria	1,325
3400	2-p	Roadster	\$2,650	2780	5-p	Landau	1,190	3405	2-p	Coupe	3,100	"Special Six"			
3400	5-p	Touring	2,650	OVERLAND "(4) Whippet"				3450	2-4-p	Coupe	3,200	3760	5-p	Coach	\$1,480
3450	7-p	Touring	2,750	1985	5-p	Touring	\$ 625	3525	5-p	Std. Sedan	2,895	3920	5-p	Brougham	1,730
3400	4-p	Roadster	3,050	1930	2-4-p	Roadster	695	3565	5-p	Club Sedan	3,300	"Big Six" (120 in. W. B.)			
3650	5-p	Sedan	3,180	2025	2-p	Coupe	625	3620	7-p	Std. Sedan	3,350	3270	3-p	Du. Roadster	\$1,530
3650	5-p	Sub. Sedan	3,380	2075	5-p	Coach	625	3570	5-p	Club Sedan	3,350	3400	2-4-p	Sport Roadster	1,495
3700	7-p	Sedan	3,280	2185	5-p	Sedan	725	...	...	Landau	3,400	3700	5-p	Du. Phaeton	1,445
3700	7-p	Sub. Sedan	3,480	2230	5-p	Landau	755	3680	7-p	Enc. Dr. Lim.	3,450	3800	5-p	Club Coupe	1,480
3650	4-p	Coupe	3,180	"(6) Whippet"				3420	4-p	Coupe	3,250	3395	2-p	Com'der Coupe	1,545
3650	5-p	Broug. Coach	3,180	2270	5-p	Touring	\$ 765	3500	5-p	Std. Sedan	3,895	3465	4-p	Com'der Coupe	1,645
3750	5-p	Town Car	4,600	2225	2-4-p	Roadster	\$ 825	3600	7-p	Std. Sedan	3,995	3510	4-p	Com. Victoria	1,575
MARMON "8"				2305	2-p	Coupe	795	3660	7-p	Enc. Dr. Lim.	4,045	3570	5-p	Com'der Sedan	1,585
3019	2-p	Speedster	\$1,895	2405	5-p	Coach	795	...	2-p	Runabout	\$5,875	(127 in. W. B.)			
2977	4-p	Speedster	1,965	2440	5-p	Sedan	875	4510	4-p	Touring	5,875	3720	7-p	Du. Phaeton	\$1,845
3054	2-p	Coupe R'dster	1,995	2490	5-p	Landau	925	4585	7-p	Touring	5,875	...	7-p	Tourer	1,845
3053	2-p	Coupe	1,895	PACKARD "6"				4760	3-p	Coupe	6,375	4050	7-p	The President	2,245
3039	4-p	Sedan 2d.	1,795	3545	4-p	Roadster	\$2,350	4830	4-p	Sedan	6,375	4080	7-p	Pres't Lim.	2,495
3092	4-p	Sedan 4d.	1,895	3590	5-p	Phaeton	2,250	4815	7-p	Sedan	5,875	STUTZ "AA" (131 in. W. B.)			
...	4-p	Brougham	1,895	3925	5-p	Sedan	2,250	4795	4-p	Coupe Sedan	6,375	4058	2-4-p	Speedster	\$3,150
3119	5-p	Cus. Se'n 2W	2,595	(133 in. W. B.)				4870	7-p	Enclosed Lim.	5,875	4175	4-p	Speedster	3,160
3172	5-p	Cus. Se'n 3W	2,595	3790	7-p	Touring	\$2,785	4740	7-p	French Lim.	7,500	4334	5-p	Brougham	3,195
3116	4-p	Cus. Victoria	2,595	3925	4-p	Coupe	2,685	4895	7-p	Enc. Dr. Land.	6,000	4340	5-p	Sedan	3,195
3040	4-p	Cus. Cabriolet	3,125	4070	7-p	Sedan	2,785	4840	7-p	Sedan Landau	6,000	4176	4-p	Vic. Coupe	3,175
"E-75"				4015	5-p	Club Sedan	2,725	4880	4-p	Lim. Encl.	6,375	4182	2-4-p	Coupe	3,165
4251	2-p	Speedster	\$3,485	4130	7-p	Sedan Lim.	2,885	4745	2-p	Coupe	6,475	...	5-p	Landau Sed.	3,345
4256	4-p	Speedster	3,485	"8" (136 in. W. B.)				4800	4-p	Sedan	6,475	(145 in. W. B.)			
4017	5-p	Phaeton	3,485	4110	4-p	Runabout	\$3,850	4880	4-p	Encl. Landau	6,600	4566	5-p	Tour. Bro'm	\$3,685
4480	7-p	Tour. Sp'ster	3,565	4130	5-p	Phaeton	3,750	4865	7-p	French Lan.	8,000	4656	7-p	Sedan	3,685
4374	2-p	Coupe R'dster	3,565	4475	4-p	Coupe	4,750	PONTIAC "Six"				4731	7-p	Sedan Lim.	3,785
4452	2-p	Town Coupe	3,195	4430	5-p	Sedan	4,750	2160	2-4-p	Roadster	\$ 775	"AA De Luxe" (131 in. W. B.)			
4373	2-p	Coupe	3,485	(143 in. W. B.)				2275	2-p	Coupe	775	4058	2-p	Speedster	\$3,250
4346	4-p	Victoria	3,485	4250	7-p	Touring	\$3,950	2375	5-p	2d. Sedan	775	4175	4-p	Speedster	3,260
4525	5-p	Brougham	3,565	4550	5-p	Club Sedan	4,890	2345	4-p	Sport Cab.	835	4182	2-p	Coupe	3,265
4498	5-p	Sedan	3,565	4660	7-p	Sedan	5,000	2460	5-p	Landau Sedan	895	4176	4-p	Vic. Coupe	3,275
4620	7-p	Sedan	3,640	4700	7-p	Sedan Lim.	5,100	2510	5-p	DeL. Lan. Sed.	975	4334	5-p	Brougham	3,320
4515	5-p	Custom Se'n	3,960	PAIGE "6-45"				REO "A"				4340	5-p	Sedan	3,320
4678	7-p	Custom Se'n	4,075	...	5-p	Touring	\$1,095	...	2-p	Roadster	\$1,685	...	5-p	Landau Sed.	3,470
4718	7-p	Custom Lim.	4,175	...	5-p	Brougham	1,095	...	...	Brougham	1,595	(145 in. W. B.)			
MOON "6-60"				2615	4-p	Cab. R'dster	1,295	...	...	Sport Coupe	1,625	4566	5-p	Tour. Bro'm	\$3,835
2295	3-p	Roadster	\$ 995	2525	2-p	Coupe	1,095	3700	...	Sedan	1,845	4656	7-p	Sedan	3,835
2340	5-p	Phaeton	995	2760	5-p	Sedan	1,195	...	4-p	Victoria	1,845	4731	7-p	Sed. Lim.	3,910
2330	3-5-p	DeL. R'dster	1,095	"6-75" (125 in. W. B.)				...	...	DeL. Sedan	1,995	"AA Custom"			
2330	3-5-p	Roy. R'dster	1,195	3420	7-p	Touring	\$1,655	2960	5-p	"Wolverine"	\$1,195	4182	2-p	Coupe	\$3,915
2330	3-5-p	Cab. R'dster	1,195	3540	4-p	Cab Roadster	1,995	...	...	Brougham	1,195	4176	4-p	Vic. Coupe	3,925
2575	3-5-p	Roy. Cab. Rds.	1,295	3550	5-p	Sedan	1,695	ROAMER "8-78"				4340	5-p	Sedan	3,985
2420	5-p	Coach	1,045	3550	4-p	Coupe	1,995	...	2-p	Roadster	\$1,495	4090	2-4-p	Cab. Coupe	3,995
2520	5-p	Std. Brough.	1,145	3765	7-p	Sedan	1,995	...	4-p	Coupe	1,495	VELIE "Spec. 60"			
2520	5-p	Royal Bro'm	1,195	3805	7-p	Limousine	2,145	...	5-p	Sedan	1,795	3025	5-p	Club Phaeton	\$1,450
2605	5-p	4d. Sedan	1,245	"6-65" (115 in. W. B.)				...	...	Sedan	1,795	3260	4-p	Coupe	1,585
2605	5-p	Royal Sedan	1,295	3055	4-p	Roadster	\$1,495	3410	2-p	Coupe	\$1,985	3335	5-p	Spec. Sedan	1,585
Series "A"				3215	5-p	Brougham	1,395	3440	5-p	Brougham	1,985	3350	5-p	Royal Sedan	1,635
2600	5-p	Roadster	\$1,395	3280	5-p	Sedan	1,495	3570	5-p	Sedan	1,985	"Std. 50"			
2560	5-p	Touring	1,195	"8-85"				...	...	Tourer	\$2,495	...	2-4-p	Roadster	\$1,165
2720	5-p	Cab. R'dster	1,595	3570	7-p	Touring	\$2,295	3880	5-p	Sedan	2,985	2730	3-p	Coupe	1,165
2710	5-p	DeL. Bro'm	1,395	3700	5-p	Sedan	2,355	3980	7-p	Sedan	3,285	2810	5-p	Sedan	1,165</

Mechanical Specifications of Current Passenger Car Models

This list comprises cars distributed on a national basis

[illegible]

The Brakes

on the new

DODGE SIX

are Lockheed Hydraulics

The phrase, "Four Wheel Brakes," when used without qualification, has today lost much of its significance.

The public now knows that the attributes of a desirable four wheel brake system are—

efficiency,
effectiveness,
ease and smoothness of operation,
dependability in all conditions, and
infrequency and simplicity of adjustment.

It knows that these attributes are to be found in Lockheed Hydraulics in a degree not even approached by any other form of braking.

Car manufacturers, too, appreciate that this is the public's viewpoint.

They know that Lockheed Hydraulics, because of these attributes, in the last few years have established in the minds of hundreds of thousands a strong and definite preference for Lockheeds.

That is why car manufacturers of the first importance now realize, in ever-increasing measure, the effectiveness of Lockheed Hydraulics in meeting the severe competition which prevails throughout the industry day.

HYDRAULIC BRAKE COMPANY

DETROIT, MICHIGAN

U. S. A.

LOCKHEED HYDRAULIC

Four **BRAKES** *Wheel*



Mechanical Specifications of Current Passenger Car Models—Continued

[illegible]

Every day sees an increasing number of motorists who refuse to gamble with safety. If your car does not offer them the protection of All-Steel, someone else is going to sell them the cars they buy

. . .

EDWARD G.

BUDD

MFG. CO.

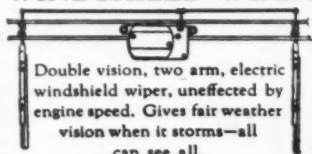
Philadelphia and Detroit



Originators of the All-Steel Full-Vision Automobile Body

OTHER BOSCH AUTOMOTIVE NECESSITIES

BOSCH ELECTRIC WINDSHIELD WIPER



Double vision, two arm, electric windshield wiper, unaffected by engine speed. Gives fair weather vision when it storms—all can see all.

BOSCH TRAFFIC-TUNED HORNS, Electric

Four sizes and types of instantaneous warning signals with distinctive tones and efficient warning.



BOSCH SPARK PLUGS



Gas-tight, heat resisting Bosch Spark Plugs give big, ribbon-like sparks for cold weather starting.

BOSCH IGNITION FOR FORDS

Automatic, dependable Bosch ignition adds new performance to Fords, improves power and gives greater mileage.



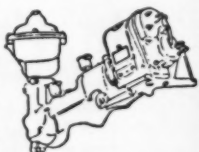
BOSCH UNIVERSAL IGNITION COIL



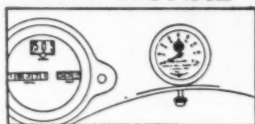
Replaces ignition coils on all makes of cars and trucks. Gives Bosch standard of dependable performance.

BOSCH MAGNETO AND GOVERNOR FOR FORDSONS

Automatic control for Fordsons. Saves in operation and improves the performance. Saves its cost in a season.

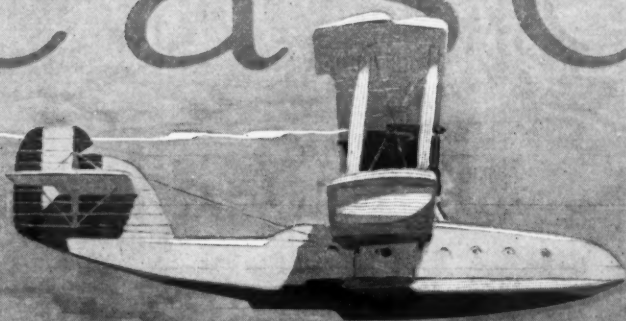


BOSCH AUTOMATIC GAS SIGNAL



Entirely electrical in operation. Accurately records gasoline in tank and automatically flashes warning before tank is empty.

ease



The gliding ease of the airplane would be your sales persuading description of the riding improvement Bosch Shock Absorbers give to any car regardless of its make. They give a new riding ease to old cars—and make new cars travel smoother, free from bounce and rattle. Your customers will also want Bosch Shock Absorbers because they eliminate the side sway and galloping motion caused by balloons.

Low priced, easily installed, nationally advertised. Sell Bosch Shock Absorbers for their performance. Two models serve all cars—universal fitters—every feature to sell, reduce inventory, promote rapid turnover and insured profits.

For Fords (3-point Control Set) Complete \$16.50 per set
Medium Cars \$15 per pair Heavy Cars \$20 per pair

AMERICAN BOSCH MAGNETO CORP
Main Office and Works: Springfield, Mass.
Branches: New York Chicago Detroit San Francisco

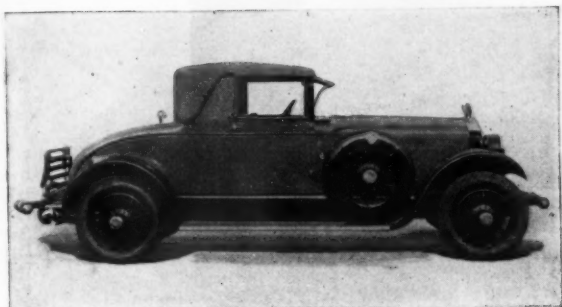


BOSCH SHOCK ABSORBER

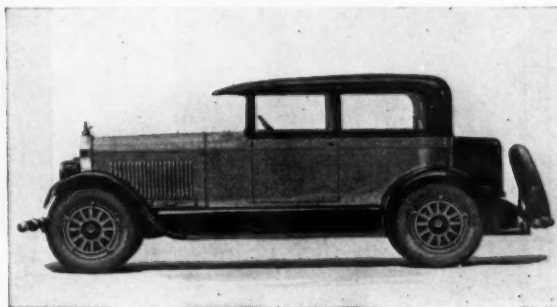
BOSCH
RADIO

receivers are noted for their tonal quality, beauty of appearance and simplicity of operation. Wide range of selection is had in 5, 6 and 7-tube receivers, two-cone type reproducers and a range of power units.

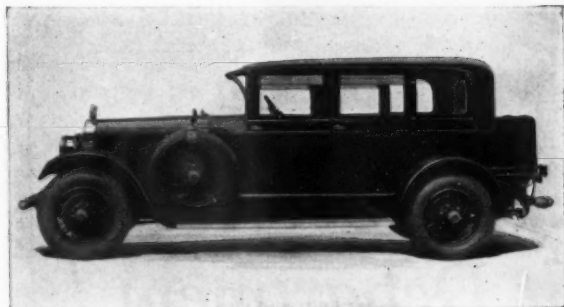
1927 ELCAR MODELS



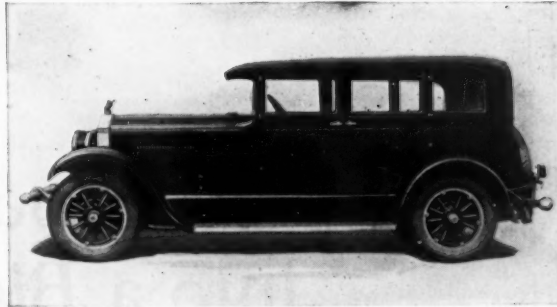
Elcar 8-90 Landau



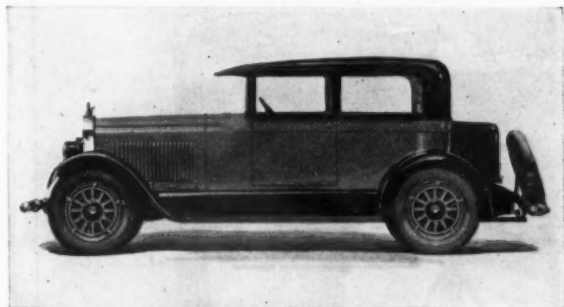
Elcar 8-82 Brougham



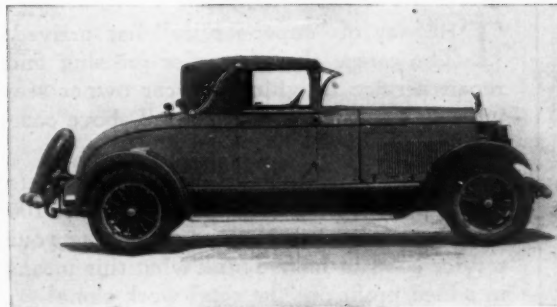
Elcar 8-90 five-passenger Sedan



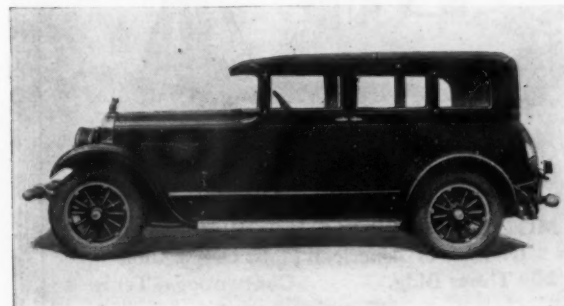
Elcar 8-82 Sedan



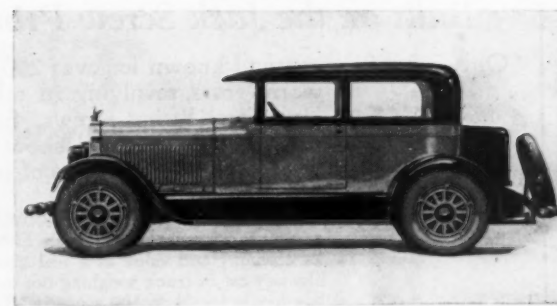
Elcar 8-90 Brougham



Elcar 8-82 Landau



Elcar 6-70 Sedan



Elcar 6-70 Brougham

LYCOMING MOTORS

LYCOMING MANUFACTURING COMPANY, *Makers of fine Fours, Sixes and Eights-in-Line*, WILLIAMSPORT, PA.
Export Department—44 Whitehall Street, New York City

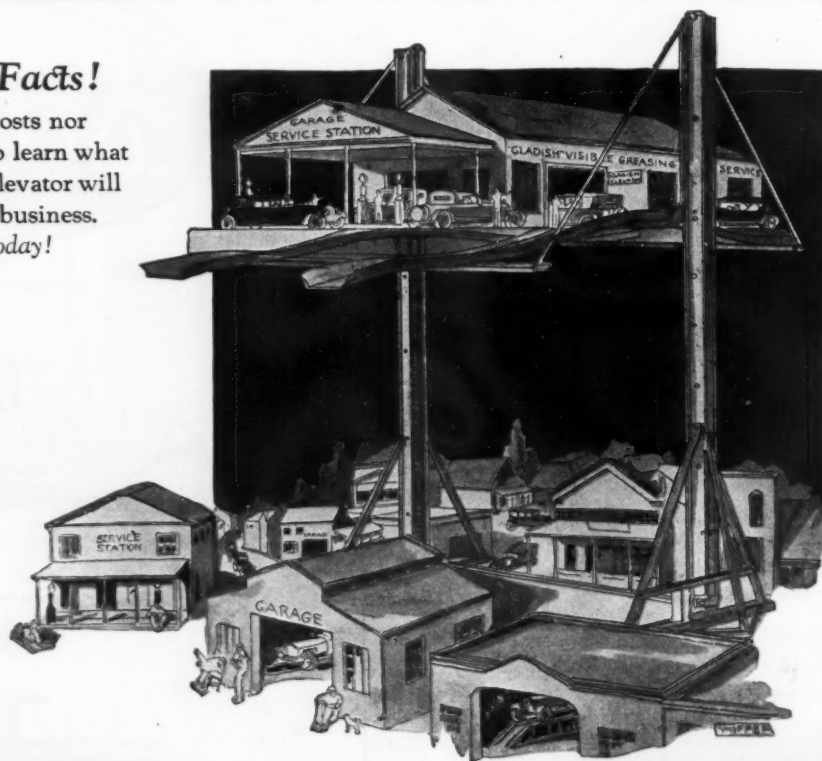
MEMBER OF MOTOR TRUCK INDUSTRIES, INC., OF AMERICA

FOR NINETEEN YEARS BUILDERS OF QUALITY PRODUCTS

Get the Facts!

It neither costs nor obligates you to learn what the Gladish Elevator will do for your business.

Write today!



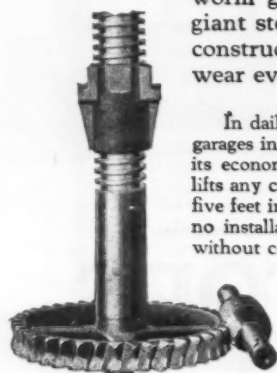
"Elevate" Your Greasing Service into a Big Profit Department!

THE day of "super-service" has arrived! The garage that can offer greasing and repair service in which the car owner sees what he's getting "elevates" itself above competition.

Not only does the Gladish Electric Auto Elevator increase your greasing business 100 to 300 per cent but it more than cuts your service costs in half. Think what this means in added profit on "flat rate" work alone!

Built on the Jack Screw Principle—

Only safe lifting method known for over 200 years. Bronze worm gears, revolving in oil, operate the giant steel lifting screws. Simple, sturdy construction that will show little, if any, wear even after 10 years of service!



In daily use by more than 400 filling stations and garages in 38 states, the Gladish Elevator has proved its economy and value as a real "business-getter." It lifts any car or truck weighing not over 5500 pounds, five feet in less than 100 seconds. There's practically no installation expense and it can be moved easily without cost or inconvenience.

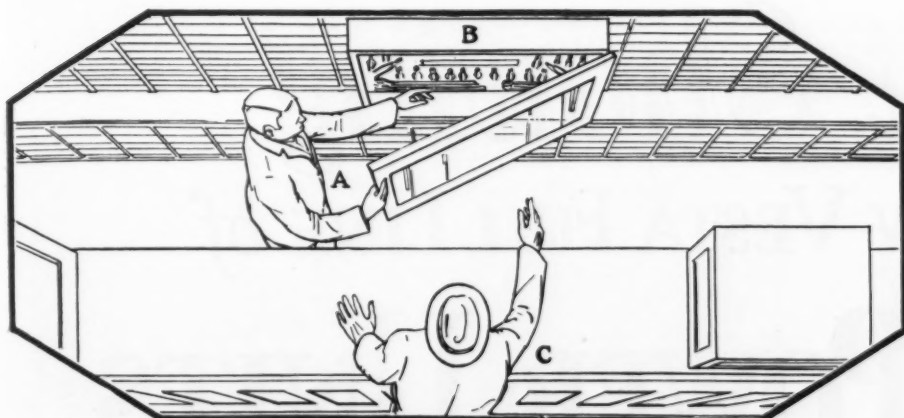
Let us give you complete specifications and information.



MOTO-SERVICE ELEVATOR COMPANY
Division of American Hoist Corporation
209 Times Bldg. Chattanooga, Tenn.

GLADISH ELECTRIC AUTO ELEVATOR

VISIBLE SERVICE • ECONOMY • PROFIT



A bird's-eye view of a profitable transaction

(A) the counter salesman, reaches into (B) the WC1 Display Case of Crescent and Smith & Hemenway Tools for the exact wrench or plier designated by (C), the customer.

The salesman is enabled to serve his customer in the shortest possible time.

The customer goes away with complete satisfaction because he has easily found exactly what he wants. His satisfaction is of the kind that brings him back to the same store when he wants other goods in the same line, because all the tools in the WC1 Display are *made under the supervision of and guaranteed by the originators of the Crescent Wrench.*

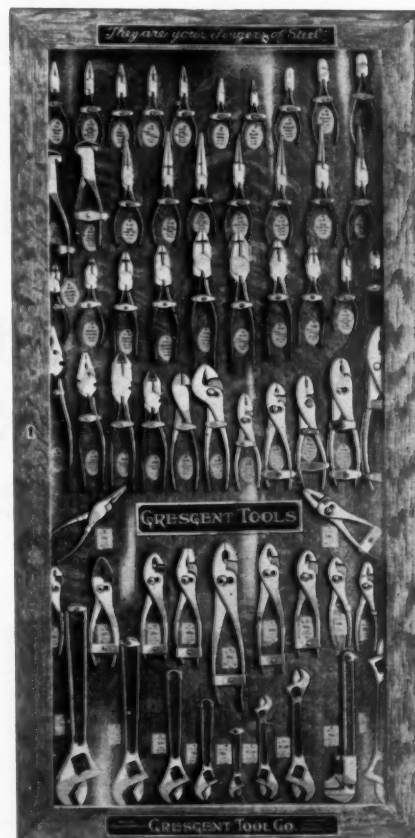
CRESCENT TOOL COMPANY

208 Harrison Street

Jamestown, N. Y.



Manufacturers of CRESCENT and Smith & Hemenway TOOLS



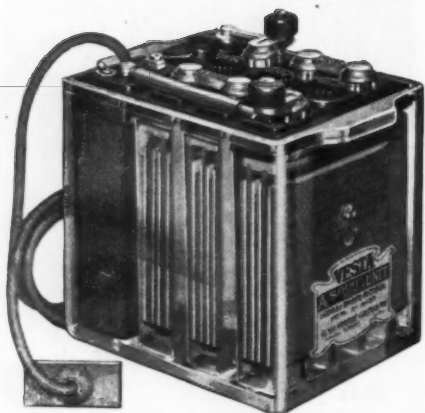
A face-to-face view of the star performer.

The WC1 Display Case is an attractive piece of store furniture. It holds fifty-nine of the fastest-selling Crescent and Smith & Hemenway wrenches and pliers. It will be supplied through your regular jobber at the price of the tools; it contains with no charge for the case itself.

At the left are shown three of the Crescent window or counter cutouts designed to display Crescent and Smith & Hemenway Tools. They are supplied in sets of six to dealers handling these tools.

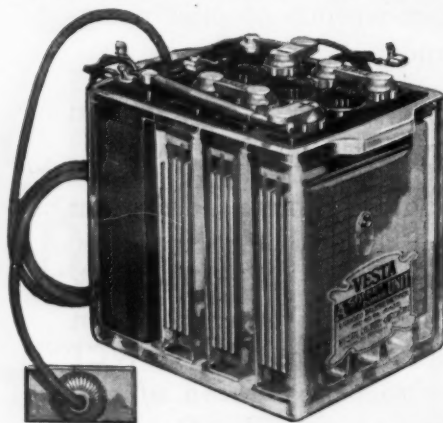
First Showing of the NEW VESTA FULL LINE of A and B POWER UNITS

at Radio Manufacturers Ass'n
Radio Show-Hotel Stevens, Chicago
June 13th to 17th Inclusive



VESTA Type A-100
Radio A Socket Power Unit

Now has both HIGH and LOW charging rates making it adaptable for sets of any number of tubes. THE CLEAR GLASS CASE, with everything in plain view, is a very valuable feature to both dealer and user. Has built-in hydrometer and trickle charger.
(Licensed Balkite Rectifier Patent No. RE 16438)



VESTA Type A-101
Radio A Socket Power Unit with relay

This unit differs from the Type 100 in that it has, in addition to the HIGH or LOW charging rate, a relay which automatically disconnects charger when receiving set is in use. This eliminates all possibility of hum. Built-in trickle charger and hydrometer.
(Licensed Balkite Rectifier Patent No. RE 16438)



VESTA
B Socket Power Unit

The latest perfected Vesta product, complete with relay which automatically disconnects when set is turned off. Likewise serves the same purpose for the "A" Unit when connected with same. No tubes to burn out. No water to be added.



VESTA Improved
Trickle Charger

Now has the HIGH and LOW charging rate and improved type electrodes that will give uninterrupted service for several years.
(Licensed Balkite Rectifier Patent No. RE 16438)

THE very latest engineering accomplishments in Radio Power Units—both A and B—and a complete line of Radio Tubes—will be presented to the trade upon this occasion—the greatest Radio Show ever held by manufacturers—for the trade exclusively.

It is quite logical that Vesta should lead in the advance of radio power units. Vesta has 30 years of quality battery building to teach it just what is best.

If you cannot visit the big show—in the new \$27,000,000 Stevens Hotel—write for bulletins on these latest products—or ask the Vesta Central near you.

VESTA

VESTA BATTERY CORPORATION

2100 Indiana Avenue, Chicago, Ill.

Makers of Vesta Quality Batteries—Automobile and Radio—for 30 years



NOW—Complete Line of
Vesta Quality Tubes

The Vesta Line of Quality tubes now includes tubes for every radio requirement. POWER and DETECTOR tubes have been added. Tubes with adapter bases. Now you can specialize on this one line of Quality tubes—with the non-microphonic feature.

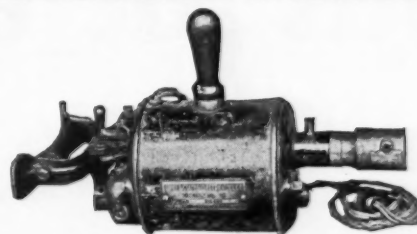
THE UNITED STATES
CINCINNATI,



ELECTRICAL TOOL CO.
OHIO, U. S. A.



The first electric drill—
a U. S. $\frac{1}{4}$ -inch



Handle made of wood to protect against shocks.
The switch was like today's street car controller,
having 6 speeds. Total weight 23 $\frac{1}{2}$ pounds.

IN A STABLE at Dayton, Kentucky, in 1897 the first electric drill and grinder were introduced to the world. They were conceived in the brain of John A. Smith, founder of The United States Electrical Tool Company and its president since the beginning.

Today, portable electric tools are used in production and maintenance work by over 90 percent of all industry. Practically all of the improvements in design and construction which have made possible this progress in time and labor saving, have been introduced first in U. S. Tools. And our seniority in the field carries with it the responsibility of keeping U. S. Tools in the lead—in other words, keeping them better.



The
latest $\frac{1}{4}$ -inch
electric drill
—a U. S.

The motor alone is only about one-fourth the size of that in the original drill. The present weight of the drill is only 5 $\frac{3}{4}$ lbs.



THE UNITED STATES ELECTRICAL TOOL COMPANY

Oldest Builders of Electric Drills and Grinders in the World

2497 WEST SIXTH STREET, CINCINNATI, OHIO, U. S. A.

Export Sales Representatives—WESTINGHOUSE ELECTRIC INTERNATIONAL CO., 150 Broadway, New York, N. Y.

"This Letter came out of a Clear Sky"

HALL-DODDS Co.

Ford

CARS-TRUCKS-TRACTORS

DETROIT

BRUCE R. DODDS, PRES.
RICHARD H. HALL, JR., V.-PRES.
WALLACE DODDS, SEC. & TREAS.

3140 GRAND RIVER AVENUE
GLENDALE 7898

March 25th, 1927.

Storm Manufacturing Co.,
Minneapolis, Minn.

Gentlemen:

We are taking this opportunity to express our complete satisfaction with your Model M Stormizing Machine. It is probably the finest piece of equipment that we have installed in our garage. It has re-conditioned about four hundred blocks since we bought it six months ago. Your Mr. Isaacson recently checked the machine and found it in as good condition as the day we bought it. We have not had a single comeback on these four hundred jobs, a condition that we have never hoped to reach before.

Many fleet owners are sending their work to us to be Stormized instead of re-ground, so it has proven not only a profit producing piece of equipment, but an entry into new car and parts business, as a result of the contact that could not have been made in any other way.

You will find that we have just placed an order through the Michigan Automotive Supply Company for a small Cutter Head and a No. 580 Storm Automatic Honing Machine.

Yours very truly,
HALL-DODDS COMPANY,
St. Fisher
Service Manager.

HF:EG


New car
and
parts
business

**400
Jobs
without
a comeback**

For catalog and
full information
write
STORM MFG. CO., INC.,
406 (A) 6th Ave. So.,
Minneapolis, Minn.

STORMIZING

THE ACCURATE METHOD OF CYLINDER RENEWING



*She doesn't know
much about
brake lining
but*

she does know
that
Johns-Manville
means good
Asbestos —

the pages of national
magazines tell her
that she knows you
know with Johns-Man-
ville Brake Lining
confidence
in her brakes.

There are thousands of cars
like this one, and women
who know Johns-Manville
means Asbestos Brake Lining.


over

We're selling confidence

Motorists use Johns-Manville Brake Lining because they have confidence in the Johns-Manville name. A confidence well placed.

We blast the asbestos from our mines—we weave it on our looms. Our own process in every inch of brake lining.

Johns-Manville really means good asbestos. Confidence? Of course — our reputation depends on it.



Confidence in the brake pedal goes with Johns-Manville Asbestos beyond it.



She sees the sign shown below! More brake business.



*your name
in here*

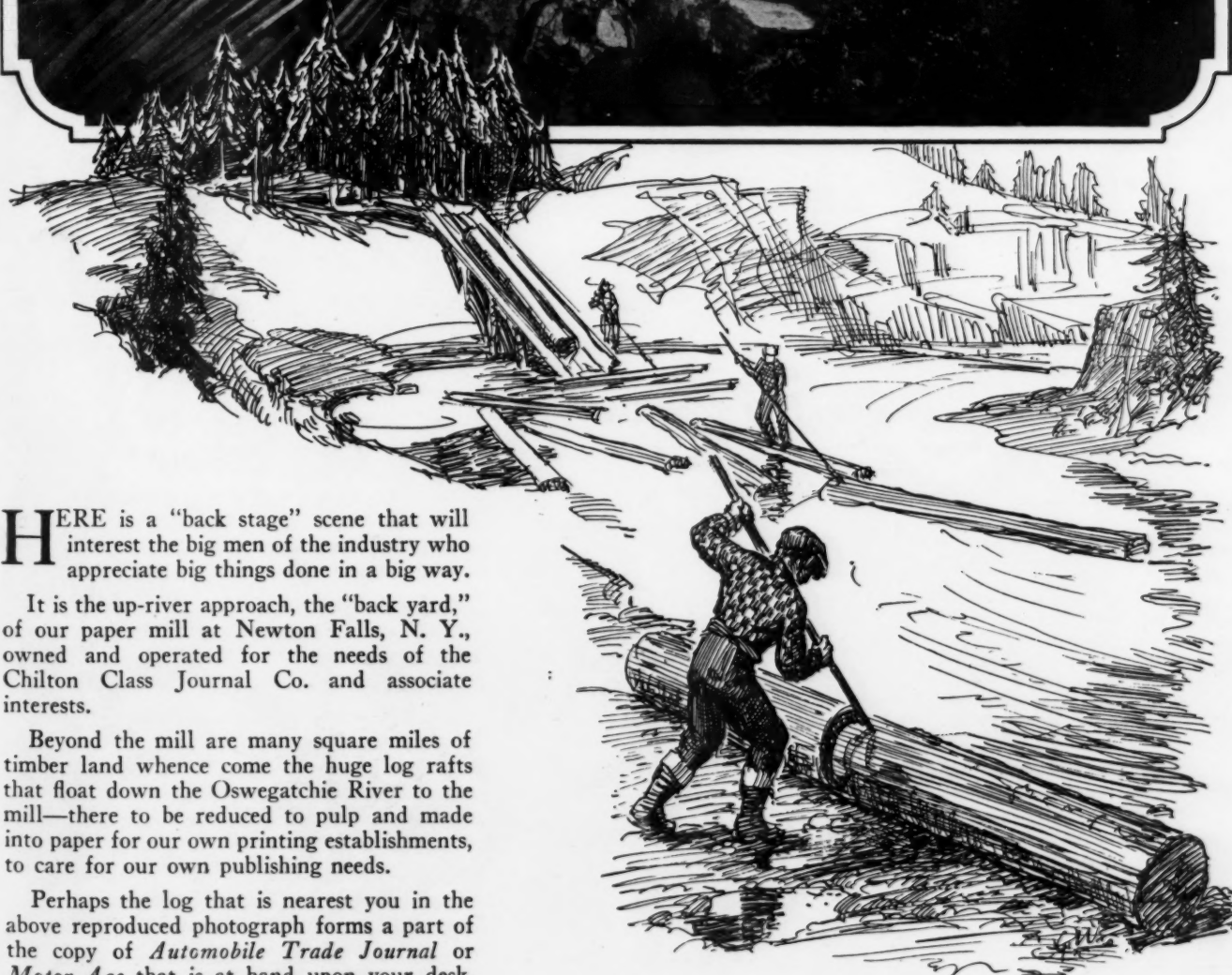
Get this sign from your distributor.

over

JOHNS-MANVILLE CORPORATION
22 MADISON AVE. NEW YORK
BRANCHES IN ALL LARGE CITIES
FOR CANADA: CANADIAN JOHNS-
MANVILLE CO., LTD., TORONTO



To get these motorists into your shop, Johns-Manville furnishes posters, mailing pieces, etc.



HERE is a "back stage" scene that will interest the big men of the industry who appreciate big things done in a big way.

It is the up-river approach, the "back yard," of our paper mill at Newton Falls, N. Y., owned and operated for the needs of the Chilton Class Journal Co. and associate interests.

Beyond the mill are many square miles of timber land whence come the huge log rafts that float down the Oswegatchie River to the mill—there to be reduced to pulp and made into paper for our own printing establishments, to care for our own publishing needs.

Perhaps the log that is nearest you in the above reproduced photograph forms a part of the copy of *Automobile Trade Journal* or *Motor Age* that is at hand upon your desk.

Retail Automotive Distribution

SUCCESSFUL SELLING is the goal toward which the major effort of the automotive industry has been directed for over a quarter of a century!

Fifteen years ago the problem was to sell the automotive idea to a somewhat skeptical public.

Ten years ago the foundations of modern automotive selling were being laid, but in the absence of a permanent, closely knit sales organization manufacturers still found it necessary to deal, or attempt to deal, directly with the buying public.

Today the sales machinery of the nation's greatest industry is solidly established. It is coordinated, synchronized to modern buying habits, and extends from the greatest city to the most remote hamlet. No sales organization in all industrial history has penetrated so deeply into the buying consciousness of the public.

These facts are recognized by the makers of automotive products. They no longer need to be told that the dealer is the keystone in the sales arch. The need for establishing effective trade contact is not subject to question.

Today's sales problem has to do with the best method for establishing a sound and profitable contact with the dealer organization.

Some manufacturers are still in doubt as to the most effective means for impressing sales messages on the minds of the worthwhile elements in trade circles. It is generally realized that the concern with well established trade connections has its sales battle won in advance.

No manufacturer would knowingly buy inferior materials at high prices for use in his factory. This matter of relative values is just as applicable to expenditures for promoting sales.

To assist manufacturers in arriving at a fair basis of comparison between various publicity media, this booklet*, summarizing the results of several nation-wide investigations by outstanding manufacturers, has been prepared, and is offered, not as opinion, but as evidence.

Chilton Class Journal Company

*NOTE—This 16-page insert is a part of a 60-page booklet on the important subject of "Retail Automotive Distribution," just published by the Chilton Class Journal Co. for advertising agencies and automotive manufacturers.

Four Nation-Wide Surveys of the Field Covered by Trade Publications

Purpose

These investigations were designed to indicate the extent to which various automotive trade publications reach the retail trade, and to reflect the opinion of the trade at large on the business value of each publication.

By Whom Conducted

Four outstanding manufacturers in four different fields co-operated in conducting the inquiry, so that results might be compared and conclusions reached. These four concerns were:

John Warren Watson Company
Chrysler Sales Corporation
Johns-Manville, Incorporated
Celoron Company
(Div. Diamond State Fibre Co.)

In view of the national standing of these companies, and their diversity of business interests, the value of the investigation and its accuracy are much greater than would be the case if only one organization had participated.

Field Covered by Inquiry

In order to confine the inquiry to a study of the value of various trade papers to the retail trade, only the following questions were asked:

What is your *principal* line of business?

- () Car Dealer
- () Service Station
- () Supply Store

Which of the following publications do you now receive regularly?

- () Publication No. 1 *
- () Publication No. 2

*NOTE—On the original questionnaire, seven of the more important trade publications were named in their alphabetical order. The list included Automobile Trade Journal and Motor Age.

- ☐ Automobile Trade Journal
☐ Publication No. 4
☐ Publication No. 5
☐ Motor Age
☐ Publication No. 7

Which trade papers do you find most helpful in your business? (Please do not check more than *two*.)

- ☐ Publication No. 1 *
☐ Publication No. 2
☐ Automobile Trade Journal
☐ Publication No. 4
☐ Publication No. 5
☐ Motor Age
☐ Publication No. 7

Do you find the advertising pages in trade journals helpful?

- ☐ Yes ☐ No

For automotive manufacturers and advertising agencies who want the complete story—names of all publications, etc.—a report has been compiled and will be furnished upon request to the Chilton Class Journal Co., Philadelphia.

Method of Conducting Survey

The entire investigation was carried on by mail. A total of 11,500 questionnaires, embodying the above questions, were sent out by the four manufacturers, as follows:

John Warren Watson Co..	3,000
Chrysler Sales Corporation	3,000
Celoron Company.....	2,500
Johns-Manville, Inc.....	3,000
Total.....	11,500

In every instance the investigating company selected names of trade units to receive its respective questionnaires from the total Retail Trade List, which embraces 101,450 names—each page averaging 53 names.

Company No. 1 sent its questionnaire to the first three names at the head of each page. Company No. 2 to the next three, and so on to the fourth company which used the fourth set of three names on each page.

Hence there was no duplication. Every state in the union was included. The result was a complete four-way survey of a complete cross section of the retail automotive trade in the entire United States.

To insure against partiality, publications were listed alphabetically, and subscription lists in all cases were disregarded.

*NOTE—On the original questionnaire, seven of the more important trade publications were named in their alphabetical order. The list included Automobile Trade Journal and Motor Age.

Results of Survey by John Warren Watson Company

(Note: Many checked more than one item, which accounts for apparent discrepancies in totals.)

What is your *principal* line of business?

711 Replied

Car Dealer	442
Service Station	192
Supply Store	77

Which of the following publications do you now receive regularly?
(Check)

678 Replied

Automobile Trade Journal	406
Motor Age	300
*Third publication	203
Fourth publication	201
Fifth publication	105
Sixth publication	73
Seventh publication	58

Which trade papers do you find most helpful in your business? (Please do not check more than *two*.)

646 Replied

Automobile Trade Journal	315
Motor Age	235
*Third publication	145
Fourth publication	141
Fifth publication	51
Sixth publication	48
Seventh publication	36

Do you find the advertising pages in trade journals helpful?

662 Replied

Yes	620
No	42

Conclusions

The majority of those who answered this inquiry were car dealers, indicating the substantial character of the trade opinion herein expressed.

Out of a list of seven leading trade publications, *Automobile Trade Journal* led the field with 315 preference votes, and *Motor Age* was second with 235 votes. These two publications together polled 30 percent more favorable votes than all others combined, an indication of the dominant merchandising influence of the industry's two leading trade periodicals.

*NOTE—On the original questionnaire, seven of the more important trade publications were named in their alphabetical order. The list included *Automobile Trade Journal* and *Motor Age*.

Results of Survey by Chrysler Sales Corporation

(Note: Many checked more than one item, which accounts for apparent discrepancies in totals.)

What is your *principal* line of business?

671 Replied

Car Dealer.....	367
Service Station	226
Supply Store	78

Which of the following publications do you now receive regularly?
(Check)

653 Replied

Automobile Trade Journal....	396
Motor Age	292
*Third publication	217
Fourth publication	169
Fifth publication	143
Sixth publication	88
Seventh publication	65

Which trade papers do you find most helpful in your business? (Please do not check more than *two*.)

623 Replied

Automobile Trade Journal ...	300
Motor Age	231
*Third publication	141
Fourth publication	116
Fifth publication	76
Sixth publication	63
Seventh publication	32

Do you find the advertising pages in trade journals helpful?

635 Replied

Yes	586
No	49

Conclusions

Paralleling the investigation by the John Warren Watson Company, the majority of answers to the Chrysler inquiry were from car dealers.

Here again *Automobile Trade Journal* led the field with 300 favorable votes and *Motor Age* was a close second with 231 favorable votes. These two publications polled over 26 per cent more favorable votes than all others combined. Considering the method employed in making the investigation, the widespread response and the substantial character of the trade reporting, the result is a strong endorsement of the industry's two leading trade papers.

*NOTE—On the original questionnaire, seven of the more important trade publications were named in their alphabetical order. The list included *Automobile Trade Journal* and *Motor Age*.

Results of Survey by Johns-Manville, Incorporated

(Note: Many checked more than one item, which accounts for apparent discrepancies in totals.)

What is your *principal* line of business?

683 Replied

Car Dealer	445
Service Station	184
Supply Store	54

Which of the following publications do you now receive regularly?
(Check)

671 Replied

Automobile Trade Journal....	355
Motor Age	314
*Third publication	202
Fourth publication	193
Fifth publication	105
Sixth publication	82
Seventh publication	51

Which trade papers do you find most helpful in your business? (Please do not check more than *two*.)

614 Replied

Automobile Trade Journal....	266
Motor Age	248
*Third publication	151
Fourth publication	127
Fifth publication	63
Sixth publication	53
Seventh publication	20

Do you find the advertising pages in trade journals helpful?

665 Replied

Yes	616
No	49

Conclusions

In this investigation also, replies from car dealers made up the bulk of the returns, aggregating over 65 percent of the total.

Automobile Trade Journal received 266 favorable votes and *Motor Age* was a very close second with 248 votes. Together, these publications polled 100 more votes, or nearly 25 percent more than all others combined.

*NOTE—On the original questionnaire, seven of the more important trade publications were named in their alphabetical order. The list included *Automobile Trade Journal* and *Motor Age*.

Results of Survey by Celoron Company

(Note: Many checked more than one item, which accounts for apparent discrepancies in totals.)

What is your *principal* line of business?

481 Replied

Car Dealer	279
Service Station	146
Supply Store	56

Which of the following publications do you now receive regularly?
(Check)

456 Replied

Automobile Trade Journal	274
Motor Age	196
*Third publication	146
Fourth publication	146
Fifth publication	83
Sixth publication	49
Seventh publication	43

Which trade papers do you find most helpful in your business? (Please do not check more than *two*.)

428 Replied

Automobile Trade Journal	206
Motor Age	157
*Third publication	111
Fourth publication	91
Fifth publication	38
Sixth publication	33
Seventh publication	30

Do you find the advertising pages in trade journals helpful?

453 Replied

Yes	426
No	27

Conclusions

A total of 279, or nearly 60 percent of those who replied to this inquiry, were car dealers.

Automobile Trade Journal received 206 preference votes and *Motor Age* 157. These two papers received more votes than all others combined, a noteworthy endorsement by a substantial cross section of the automotive trade.

*NOTE—On the original questionnaire, seven of the more important trade publications were named in their alphabetical order. The list included *Automobile Trade Journal* and *Motor Age*.

SUMMARY

Combined Results of Surveys by

John Warren Watson Company Johns-Manville, Incorporated
Chrysler Sales Corporation Celoron Company (Div. Diamond State Fibre Co.)

11,500 Inquiries Sent Out 2,667 Total Returns Analysed

What is your *principal* line of business? 2,546 Replied.

		(Percent of 2,546)
Car Dealer	1,533	60.2
Service Station	748	29.4
Supply Store	265	10.4

Which of the following do you receive regularly? 2,458 Replied.

		(Percent of 2,458)
Automobile Trade Journal ...	1,431	58.2
Motor Age	1,102	44.8
*Third publication	766	31.2
Fourth publication	711	28.9
Fifth publication	436	17.7
Sixth publication	286	11.6
Seventh publication	223	9.1

Which trade papers do you find most helpful? 2,311 Replied.

		(Percent of 2,311)
Automobile Trade Journal .	47.0 %	1,087
Motor Age	37.7 %	871
*Third publication	23.7 %	548
Fourth publication	20.6 %	475
Fifth publication	9.7 %	225
Sixth publication	8.7 %	200
Seventh publication	5.1 %	118

The relative standing of these papers on all four questionnaires was identical

Do you find the advertising in trade journals helpful? 2,415 Replied.

		(Percent of 2,415)
Yes	2,248	93.1
No	167	6.9

Conclusions

The position of *Automobile Trade Journal* and *Motor Age* is clearly defined by these surveys.

The fact that in four independent investigations these two publications received over *25 percent more than all others combined*, suggests how effectively they are meeting the business paper needs of the automotive dealer.

*NOTE—On the original questionnaire, seven of the more important trade publications were named in their alphabetical order. The list included *Automobile Trade Journal* and *Motor Age*.

Buying Power Reached by the Industry's Favored Publications

In the final analysis the influence of any publication as a merchandising medium is based on the collective value of its readers as potential customers. The higher the *quality* of the circulation the more effective is the advertiser's message.

In order to determine the extent of the market reached by *Automobile Trade Journal* and *Motor Age*, fifteen towns and cities, located in eight different states, were selected as typifying the retail automotive market, and a complete analysis was made in these trading centers of the volume of business done by subscribers to the above publications.

The results fully justified the preference expressed by the trade at large for these two publications. In every town subjected to analysis it was found that readers of *Automobile Trade Journal* and *Motor Age* were responsible for 75 per cent or more of all sales of automotive products.

NOTE:—On the five succeeding pages we analyze five of these typical cities. A further analysis representing a complete cross section of the United States is included in a handsomely bound book—“*Retail Automotive Distribution*”—which will be sent upon request to advertising agencies and automotive manufacturers. Address: Chilton Class Journal Co., Philadelphia.

Salem, Massachusetts

Survey of Trade Coverage by *Motor Age* and *Automobile Trade Journal*

Population	42,529
Number of trade units.....	30
Number of subscribers to <i>Motor Age</i> and <i>Automobile Trade Journal</i>	21

Makes of cars handled by subscribers to these two publications:

Chrysler	Kissel
Dodge	Nash
Ford	Packard
Hudson-Essex	Reo
Hupmobile	Studebaker

Approximate percentage of car sales by subscribers
to these publications..... 76%

Number of service stations subscribing to these
publications 17

Approximate percentage of service sales by sub-
scribers to these publications..... 84%

**Approximate percentage of total au-
tomotive sales by subscribers to
Automobile Trade Journal and
Motor Age. 78%**

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Greenfield, Massachusetts

Survey of Trade Coverage by *Motor Age* and *Automobile Trade Journal*

Population 15,462

Number of trade units..... 20

Number of subscribers to *Motor Age*
and *Automobile Trade Journal*..... 14

Makes of cars handled by subscribers to these two
publications:

Buick	Nash
Chevrolet	Oakland
Chrysler	Packard
Dodge	Pontiac
Ford-Lincoln	Pierce-Arrow
Hudson-Essex	Studebaker
Jordan	

Approximate percentage of car sales by subscribers
to these publications..... 97%

Number of service stations subscribing to these pub-
lications 13

Approximate percentage of service sales by sub-
scribers to these publications..... 85%

**Approximate percentage of total au-
tomotive sales by subscribers to
Automobile Trade Journal and
Motor Age 93%**

Syracuse, New York

Survey of Trade Coverage by *Motor Age* and *Automobile Trade Journal*

Population 171,717

Number of trade units..... 165

Number of subscribers to *Motor Age*
and *Automobile Trade Journal*..... 88

Makes of cars handled by subscribers to these two
publications:

Buick	Oakland
Cadillac	Oldsmobile
Chandler	Packard
Chevrolet	Paige
Chrysler	Pontiac
Dodge	Reo
Elcar	Star
Ford-Lincoln	Stearns
Gardner	Studebaker
Hupmobile	Velie
Marmon	Willys-Overland
Nash	

Approximate percentage of car sales by subscribers
to these publications 77%

Number of service stations subscribing to these pub-
lications 85

Approximate percentage of service sales by sub-
scribers to these publications..... 73%

**Approximate percentage of total au-
tomotive sales by subscribers to
Automobile Trade Journal and
Motor Age 76%**

York, Pennsylvania

Survey of Trade Coverage by *Motor Age* and *Automobile Trade Journal*

Population 47,512

Number of trade units..... 58

Number of subscribers to *Motor Age*
and *Automobile Trade Journal*..... 39

Makes of cars handled by subscribers to these two
publications:

Buick	Moon
Cadillac	Nash
Chandler	Oakland-Pontiac
Chevrolet	Oldsmobile
Dodge	Paige
Elcar	Peerless
Ford-Lincoln	Pierce-Arrow
Gardner	Reo
Hupmobile	Star-Flint
Jordan	Stearns
Locomobile	Studebaker
Marmon	Velie

Approximate percentage of car sales by subscribers
to these publications 89%

Number of service stations subscribing to these pub-
lications 37

Approximate percentage of service sales by sub-
scribers to these publications 81%

**Approximate percentage of total au-
tomotive sales by subscribers to
Automobile Trade Journal and
Motor Age. 86%**

Canton, Ohio

Survey of Trade Coverage by *Motor Age* and *Automobile Trade Journal*

Population	87,091
Number of trade units	89
Number of subscribers to <i>Motor Age</i> and <i>Automobile Trade Journal</i>	48

Makes of cars handled by subscribers to these two publications:

Auburn	Nash
Buick	Oakland
Chandler	Oldsmobile
Chevrolet	Packard
Chrysler	Paige
Elcar	Pontiac
Ford-Lincoln	Reo
Franklin	Star
Hudson-Essex	Stearns
Hupmobile	Studebaker
Jordan	Velie
Marmon	

Approximate percentage of car sales by subscribers
to these publications 79%

Number of service stations subscribing to these pub-
lications 44

Approximate percentage of service sales by sub-
scribers to these publications..... 76%

**Approximate percentage of total au-
tomotive sales by subscribers to
Automobile Trade Journal and
Motor Age. 78%**

Comparative Value

Motor Age

(WEEKLY)

\$5.80 per page
per thousand circulation

*25,847 A.B.C. circulation (12-31-1926 report).

Subscription renewal: 57.81%.

Cost per page, 52-time basis, \$150.

Circulation analysis by occupation:

Trade	88.33%
Salesmen and mechanics	6.71%
Automotive manufacturers	1.96%
Misc. and unclassified	3.00%

Automobile Trade Journal

(MONTHLY)

\$5.86 per page
per thousand circulation

43,469 A.B.C. circulation (12-31-1926 report).

Subscription renewal: 54.34%.

Cost per page, 12-time basis, \$255.

Circulation analysis by occupation:

Trade	91.45%
Salesmen and mechanics	2.27%
Automotive manufacturers .....	.78%
Misc. and unclassified	5.50%

Competitive Monthly

\$7.90 per page
per thousand circulation

†45,554 verified circulation.

Subscription renewal: 31.68%.

Cost per page, 12-time basis, \$360.

Circulation analysis by occupation:

Trade	73.42%
Salesmen and mechanics	17.05%
Automotive manufacturers	1.57%
Misc. and unclassified	7.96%

Competitive Weekly

\$11.01 per page
per thousand circulation

11,347 unverified circulation.

Subscription renewal: no record.

Cost per page, 52-time basis, \$125.

Account of non-membership in the Audit Bureau of Circulations there is no record of circulation analysis.

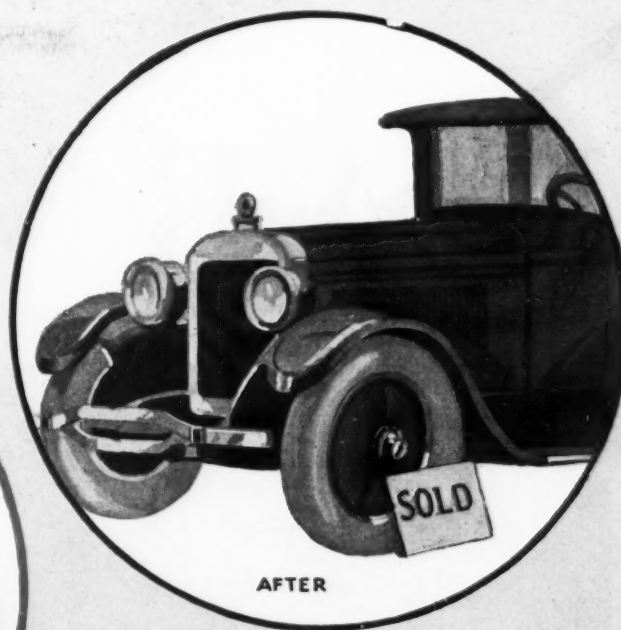
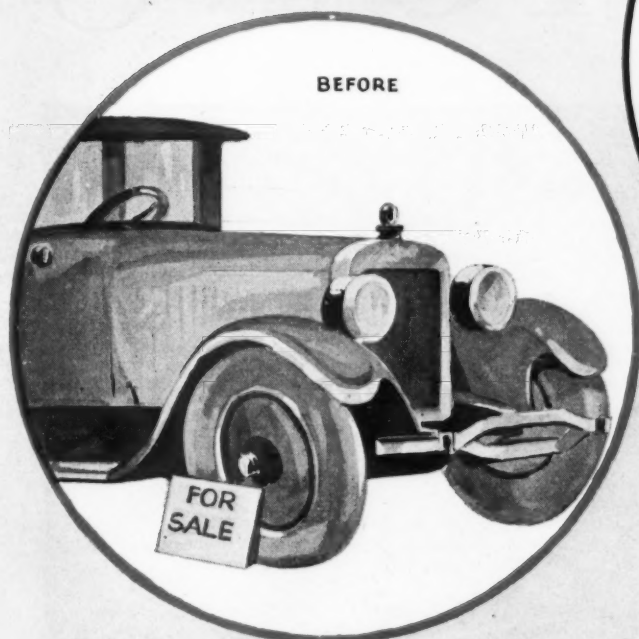
*No premiums.

†19,860 secured through premiums.

During 1926 there were 961 automotive manufacturers who restricted their trade paper advertising to Chilton Class Journal Publications. They used them for results—and got results.

Advertising in Chilton Class Journal publications reaches more and costs less.

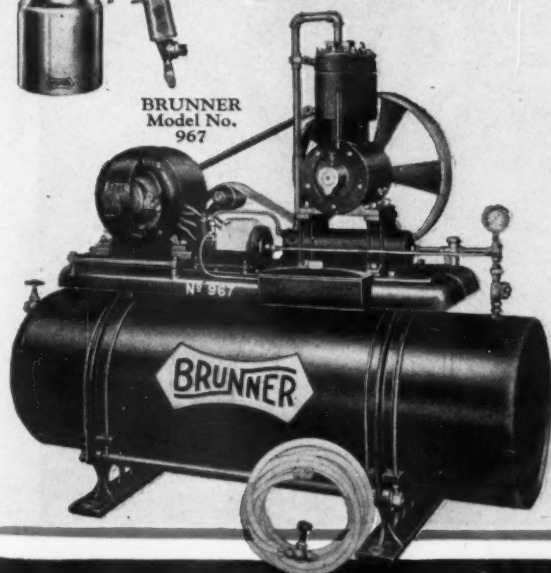
USED CARS AND



SPRAY PAINTING



BRUNNER Model 300 Spray Gun
Atomizes perfectly, light in weight,
easily cleaned, perfectly balanced,
quickly adjusted, the best gun
made by far.



BRUNNER
Model No.
967

THOUSANDS of dealers are spray painting their used cars and moving them quickly at a profit.

The type of equipment you buy, plays a big part in the results you'll get. Brunner equipment is generally conceded first place in the list, because it's a product of twenty-one years' experience in the manufacture of air-operated garage-tools and because it's a proven profit unit wherever installed.

Learn more about the Brunner line. Send for our booklet, "Spray Painting the Automobile." Write your name in the margin of this page. Tear it out and send it to us. You'll get your booklet by return mail.

BRUNNER MANUFACTURING CO.
Utica, N. Y.

Kansas City, Mo. San Francisco, Cal. Toronto, Canada

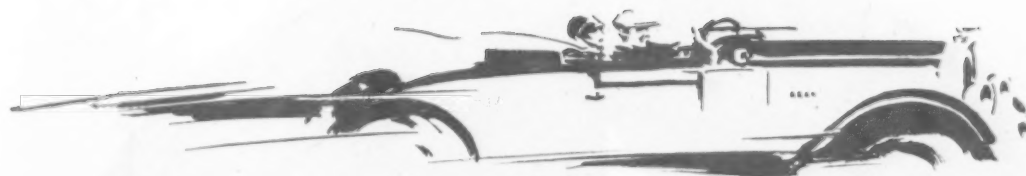
BRUNNER SPRAY PAINT EQUIPMENT

Write your name and address in the margin of this advertisement

MARMON 8



No car in America today has so much "salesroom magnetism." Shown here—an everyday crowd in the salesroom of the Pelton Motor Company, southern California distributors



The Greatest Performer in the World Today—bar none

People only put up with what they have until they get something better

—and it is now the cold-blooded, mature second judgment of automobile-buying America, based on an ever-growing wave of owner-enthusiasm, that this new Marmon 8 is the greatest performer in the world today.

No car on earth can touch it in get-away, quick-witted speed, maneuverability and general, all-around performance.

In addition (and this is probably the greatest engineering feat of all)

it introduces a new type of smooth, bounceless riding—*without long wheelbase*—the same sumptuous riding quality for which Marmon cars have always been famous and which ends the argument in demonstration on rough, chuck-hole roads.

To the dealer all this means

—a car that he can turn over to his salesmen knowing that it will out-demonstrate anything else in the industry

—and a constant flow of live, interested prospects who can be turned into customers with a minimum of sales expense.

We have recently prepared a booklet entitled "THE PAST 90 DAYS WITH MARMON," which shows you something of Marmon's progress to date with the Marmon 8

MARMON MOTOR CAR COMPANY · INDIANAPOLIS

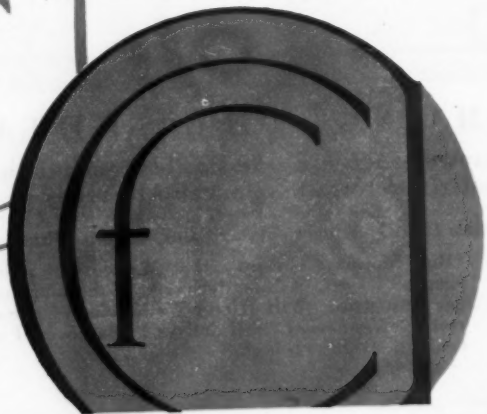
AMONG THE RETAIL SALESMEN

MEANWHILE, even in the smaller communities, the large Marmon 75 is showing wonderful returns to salesmen who really go after the business.

GEORGE HACK, of Rogers Motor Sales, Canton, Ohio, recently wired the factory as follows:

"Blue Monday. Got up at 6 A. M.; drove 30 miles. First order 10:30 A. M., four-passenger Victoria. Will be delivered in the morning. Second order at 3:15—five-passenger Brougham. Will deliver Wednesday. Have seven-passenger sedan coming from factory Wednesday. Will deliver Friday A. M. I am delivering a two-passenger coupe tonight. Going on high."





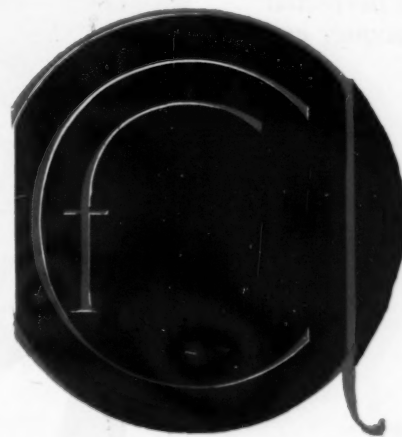
Carter Carbureters in ONE-THIRD of all New Cars

One-third of all cars and trucks built in the United States since March 1st, 1927, are equipped with Carter Carbureters.

At a time when competition intensifies development of every phase of design, production, sales, performance, economy and service, Carter progress is still swifter; Carter margin of leadership grows still wider.

It is by far the most emphatic degree of acceptance that a carbureter has ever had.

CARTER CARBURETOR CORP'N, ST. LOUIS
DIVISION OF AMERICAN CAR AND FOUNDRY COMPANY



CARBURETER

SHERWIN-PAINTS VARNISHES

If you want—

- 1 A hard, tough, but not brittle film that is wear, water and weather proof;
- 2 A natural gloss which can be brought to a high lustre with the lowest labor cost;
- 3 Exceptional covering capacity with a minimum material cost;
- 4 An even flow and smooth surface free of bubbles, orange peel or blushing;
- 5 Fast lacquer enamels and colorless clears;
- 6 Uniformity of consistency, weight and shade;
- 7 No residual odor or toxic fumes;

You will use

OPEX

The perfected
lacquer enamel



Trade Mark Registered

LARGEST IN

Cullen-Thompson Motor Company
SAVINGWAY AT 18TH
Butte, Idaho
January 8, 1928

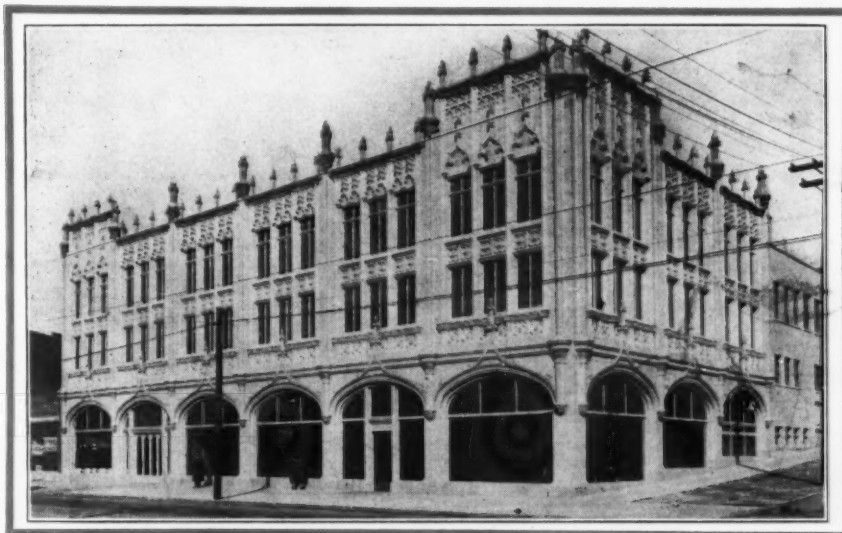
The Sherwin-Williams Co.
1000 Broadway Street
Butte, Colorado

Gentlemen:
We believe it is no more than right that we should drop you a line of appreciation of the excellent service you have given us at all times and also of the wonderful results we have secured from the use of your Ope Lacquer Enamel.
In our shop we have experimented with practically all types of lacquer enamel and find that Ope is superior to any-thing offered on the market today.
We especially wish to recommend your Ope Se-Flon as it will increase the natural gloss of the lacquer enamel, de-positing upon the color from 50% to 100%. It also practically elim-inates the great drawbacks of lacquer enamel, namely spray dust and orange peel.
The work we turn out in our shop is second to none and we will gladly continue to use Ope Lacquer Enamel as long as the Sherwin-Williams Company keep up the same standard high quality we have always found in materials we have used of your manufacture.
Yours very truly,
W. J. Cullen
CULLEN-THOMPSON MOTOR COMPANY

WILLIAMS

LACQUERS · ENAMELS

"The work we turn out is second to none. As long as Sherwin-Williams keeps up the same quality, we will continue to use Opex," says Mr. Neil R. Cullen. The Cullen-Thompson Motor Company's showroom, Denver, Colo., is shown here.



Tried nearly all lacquer enamels but prefers OPEX

"We have experimented with practically all types of lacquer enamel and find Opex superior to anything on the market," says Mr. Neil R. Cullen.

There's no element of theory or guesswork in Mr. Cullen's opinions concerning the various lacquer enamels on the market. He has tried most of them. He knows!

Neither are the fine things Mr. Cullen says concerning Opex, in his letter reproduced on the opposite page, representative merely of his

experiences. The time and labor saved in polishing, the finer gloss, the elimination of spray dust and orange peel — *all* are advantages which are enjoyed by countless other large and small users of this highly perfected lacquer enamel.

You will be interested in knowing how these other concerns, many perhaps with finishing problems similar to yours, have utilized Opex to speed up their work and produce a better result. Just send the coupon. No obligation, of course!

THE SHERWIN-WILLIAMS Co.

Cleveland, Ohio

THE SHERWIN-WILLIAMS CO.
420 Canal Road, Cleveland, Ohio
Gentlemen: Please send me Opex literature

Name.....
Title.....
Company.....
Address.....

THE WORLD



No High Pressure Salesmanship



Superiority is established on merit.

It is not the policy of the Moto Meter Company, Inc., to "gang" the dealers with crews of salesmen, to artificially stimulate sales; such practice is as unsound as it is unnecessary with Moto Meter Spark Plugs.

It is our honest belief, supported by the experience of many motorists and the trade, that the Moto Meter Spark Plug is a superior product, worthy of the best interests of the trade and the Moto Meter line.

With its self-adjusting spark gap and many other features, it represents a distinct advance in spark plug design, a definite contribution to motor ignition.



With Moto Meter Spark Plugs, dealers may sell improved motor performance with an assurance of confidence and satisfaction.

A satisfied customer is better for you than a thousand salesmen who want your order; try a set of Moto Meter Spark Plugs with the next customer who complains of spark plug trouble; pick out one of the hard cases to satisfy—check the results; many dealers have convinced themselves this way.

List: for Fords, 75c; other cars, 90c
Bus and Truck, (Heavy Duty) \$1.00

THE MOTO METER COMPANY, Inc.
Long Island City, N. Y.

THE MOTO METER CO. OF CANADA, Ltd.
Hamilton, Ontario

The name Moto Meter is the registered trade mark and exclusive property of this company

MOTO METER
TRADE MARK REG. U.S. PAT. OFFICE
SELF-ADJUSTING
SPARK PLUG



JAN FEB MAR APR MAY

Great Days for **HEXDEES**

May Sales Go "Out of Sight"
Here are real profits for you

Healthy increases every month, with May going over the top! That's the Hexdees selling record up to date. What more could indicate a remarkable road smoothing service for the motorist and very real profits for the dealer?

Hexdees do the job—no question about that. They control spring action within the spring itself. They stop that galloping—smooth out the roads. They are simple—easily installed—quickly adjusted—never wear out. And their surprisingly low costs will make sales for you. Write for the Hexdees proposition.

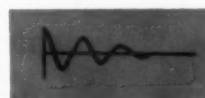
DETROIT STEEL PRODUCTS COMPANY
2286 East Grand Boulevard, Detroit, Michigan

Pacific Coast Factory: Oakland, California
Canadian Factory: The B. J. Coghlin Co., Ltd., 2050 Ontario St., E. Montreal

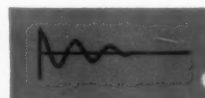
We have installed a great number of Hexdees and are more than pleased with the results obtained. In fact, we are including them in our groups of accessories installed and included in the price of the new car when delivered.

I can heartily recommend them both from the dealer's and the customer's standpoint as they are reasonable enough in price and require no alibi after being installed.

Excerpt from a letter received from R. Anderson, Service Manager, Mid-West Chevrolet Company, Tulsa, Oklahoma.



Showing the vibration of a dry spring, equipped with a well known shock absorber.



Showing the vibration of the same spring, controlled by Hexdees.

\$14²⁵

for Complete Set

\$8⁷⁵

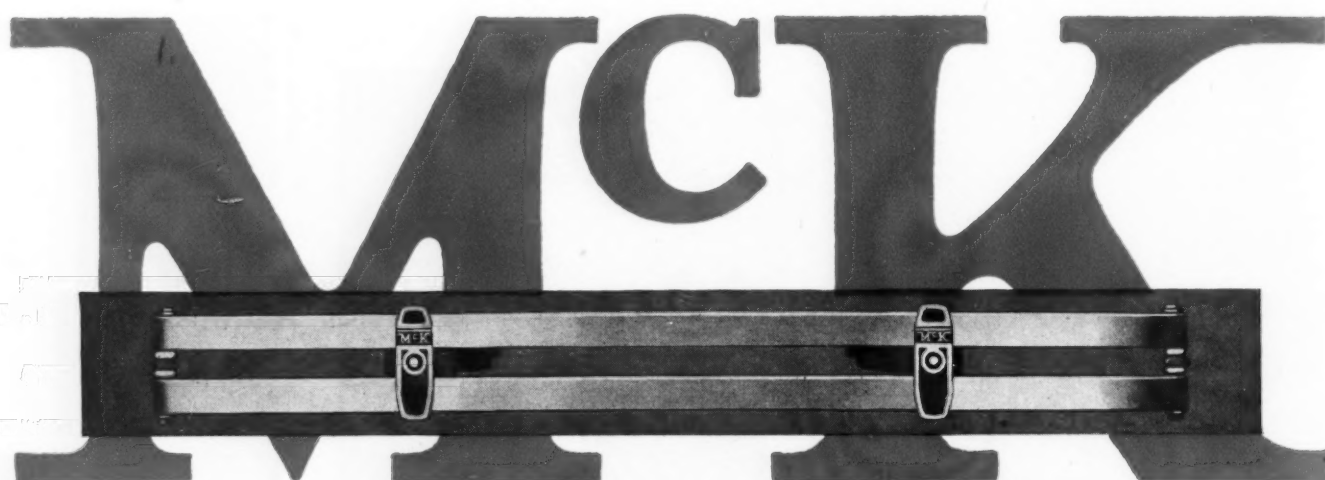
for Fords

Slightly higher prices—Denver and West.

The NEW TYPE LOW COST Shock Absorber

HEXDEES

Designed for Spring Control by the Manufacturers of "Detroit Springs," which are Standard Equipment on over 40 Cars and Trucks



Backed Up By a Name That's KNOWN!

By extensive national and trade advertising, a ready acceptance has been built up for McKay Red Bead Bumpers. Your selling is made easy.

Motorists today know that "McKay" means "Better Black Chains in the Red Band Bag"—that this name stands for sure action shock absorbers—McKay Spring Controllers. By the satisfactory use of one McKay product they have confidence in them all.

UNITED STATES CHAIN & FORGING COMPANY, UNION TRUST BLDG., PITTSBURGH, PA.

Manufacturers of Industrial and Commercial Chains for every purpose.

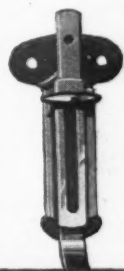
MCKAY RED BEAD BUMPERS

For emergency protection, motorists are buying McKay Tire Chains every month in the year.

MCK

Here's a knockout for bumps and ruts. Do the work—cost less—McKay Spring Controllers. Sell 'em.

Announcing **NOGLAR** HONOLD



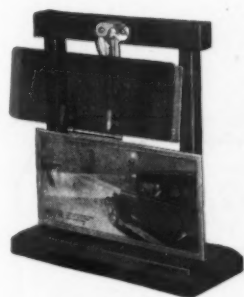
The Shield of Greatest Safety!



This shows NOGLAR tilted down to stop glare



This shows NOGLAR tilted up when not in use



**FREE
DISPLAY!
STAND!**

This attractive display stand sent FREE with an order for 12 NOGLARS. Holds NOGLAR firmly and invites your customers to operate the shield. A real sales promotion device.

HERE at last is an efficient and practical device that banishes the danger caused by glaring lights at night and the dazzling sun by day.

NOGLAR, the Shield of the Greatest Safety is equipment that is a necessity for every car or truck. This device is simple in design, durable in construction and efficient and easy to operate.

NOGLAR is installed in a few minutes and needs no further adjustment. A touch of the finger operates NOGLAR. When not in use folds up out of the way.

Heavy, crystal clear, green shield stops glare of brightest lights and mid-day sun. Metal parts nickel plated and highly polished. Bracket adjustable to fit all cars.

NOGLAR is an article that will sell in volume. Its need is apparent—its price is only \$2.00 retail. Stock NOGLAR and get the extra profit it will create. Write or wire for discounts and literature.

HONOLD MANUFACTURING CO.
SHEBOYGAN, WISCONSIN

NOGLAR HONOLD

STEWART-WARNER VIBRATOR HORN

Big in Size
Big in Volume
Big in Sales

Small in Price

\$7²⁵₋



Stewart-Warner

DRIVING LIGHTS

BUMPERS

WINDSHIELD CLEANERS

SHOCK ABSORBERS

HEATERS

SPEEDOMETERS

VACUUM TANKS

STEWART-WARNER PRODUCTS SERVICE STATIONS

VANCOUVER

EDMONTON

CALGARY

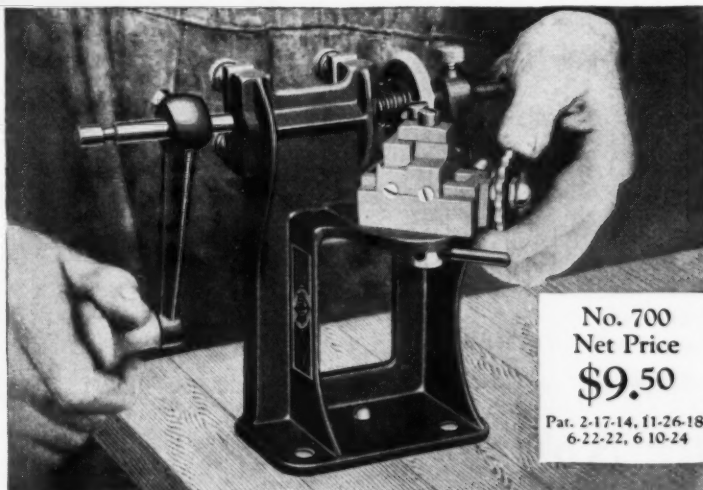
REGINA

WINNIPEG

TORONTO

MONTREAL

LITTLE SIOUX VALVE LATHE



No. 700
Net Price
\$9.50

Pat. 2-17-14, 11-26-18,
6-22-22, 6-10-24

A Corking Good Valve Refacer at a Low Price!

NO shop can afford to be without a valve refacer when such an efficient machine as the "Little Sioux" can be bought at such a small price. It does accurate work—and does it *fast*! Cuts a smooth, even surface at the right angle—leaves no ridges. No valve made is too hard for it to cut. Especially adapted for steel valves. Handles any valve up to 2½" — 30, 45, or 60° angle.

Your Jobber Sells It.

ALBERTSON & CO.
Sioux City, Ia.
U.S.A.

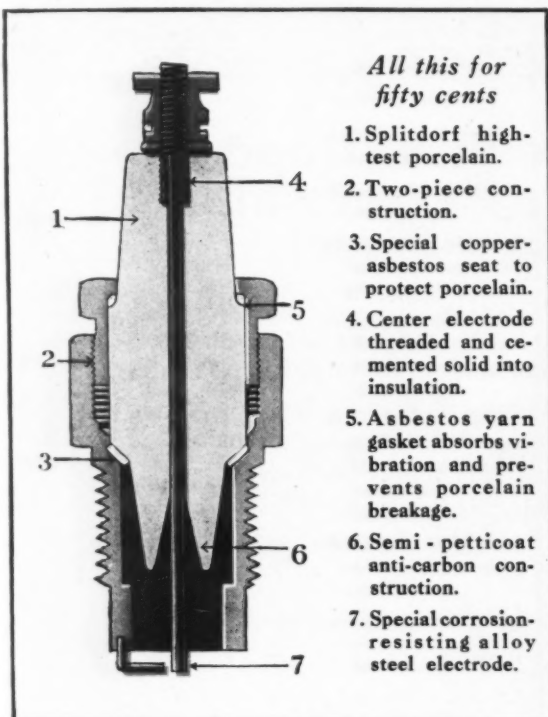
SIOUX

Trade Mark Reg. U.S. Patent Office

Packaged
and priced
to sell
by the
set



*A box of four Splitdorf Spark Plugs for Fords
to retail for \$1.75*



*All this for
fifty cents*

1. Splitdorf high-test porcelain.
2. Two-piece construction.
3. Special copper-asbestos seat to protect porcelain.
4. Center electrode threaded and cemented solid into insulation.
5. Asbestos yarn gasket absorbs vibration and prevents porcelain breakage.
6. Semi-petticoat anti-carbon construction.
7. Special corrosion-resisting alloy steel electrode.

THIS special Splitdorf package offers the economical Ford owner most for his spark plug money—four standard high-grade spark plugs for \$1.75—a real value. The quality of the product, the Splitdorf reputation, and the special low price are a combination hard to equal in the profitable field of Ford plug replacements.

The low price for the set makes it easy to sell the Ford owner on the idea of replacing four plugs instead of one. Four new Splitdorf Spark Plugs will give him what he is looking for—easier starting, better running in traffic, more power. A collection of old and new plugs can't make a motor smooth-running because the plugs fire at different times with varying spark intensity due to the difference in spark gaps and carbon accumulations. When a customer asks for a spark plug show him this set—specially packed, specially priced. Sell four plugs instead of one.

Splitdorf Spark Plugs for every type of engine retail for fifty cents. The low retail price does not decrease the dealer's profit. See your jobber about this profitable line. Splitdorf Electrical Company, 392 High Street, Newark, N. J. *Subsidiary of Splitdorf-Bethlehem Electrical Company.*

Reg. U. S.
Pat. Off.



Established
1858

What Are You Doing to Move Goods From the Shelves?

YOU are a merchant with merchandise to sell. If wisely bought it is well known, well advertised and has an assured market—but that is only the first step.

The rest depends upon whether you are going to wait for the customer to come in and ask for the goods or whether you are going to give your entire organization full information and instructions, thus enabling them to take advantage of the sales opportunities brought

about by new or improved products.

To insure getting this business—to maintain and increase sales—the merchant will find it beneficial to bring his organization together at least once a week and outline plans for using the sales thoughts contained in the advertising, sales helps, etc., provided by the manufacturers. Show the salesmen how to present the improved merchandise to prospective customers.

Why You Can Do a Big Business on AC Products

Over 12,000 cars a day are leaving the factories equipped with AC Spark Plugs, among them being *Buick, Cadillac, Chrysler, Chevrolet, Essex, Hudson, LaSalle, Nash, Oakland, Oldsmobile, Pontiac, Star*, and many others.

This tremendous equipment business means positive and ever-increasing sales for the dealers.

There are now over 7500 cars and trucks a day leaving the factories equipped with AC Oil Filters, among them being *Buick, Cadillac, Chandler, Chevrolet, Nash, Oakland, Oldsmobile, Paige* and *Peerless*.

Every owner of one of these cars is a ready customer for one or more AC Oil Filter Cartridges a year. This fact alone means big sales possibilities for the dealer.

There is also a good business to be had on the complete AC Oil Filter installation now available for over 30 makes of cars not oil filter equipped.

Because Ford cars are not speedometer-equipped and every Ford owner needs and wants a speedometer, there is a big business for the dealers on the AC Speedometer for Ford if they go after it.

How You Can Move More AC Products

AC SPARK PLUGS

Sell in sets. A new set can be sold to every owner after his plugs have run a certain mileage—approximately ten thousand. To do this, the dealer should ask owners how long they have used their spark plugs and sell them a new set to improve motor performance. Have a good display of AC Spark Plugs in windows as well as on counters and shelves.

AC OIL FILTERS

The AC Oil Filter, after a certain mileage, will become filled with the dirt it has taken from the oil, and only by installing a new Cartridge can the owner be assured of continued efficient lubrication of his engine.

You can get this Cartridge business by checking

the filter on every AC Oil Filter-equipped car that comes into your place, recommending a new Cartridge when needed.

By telling the owner of its advantages and economy, you can also do a good volume of business on the complete AC Oil Filter for cars not already equipped with this device.

AC SPEEDOMETERS

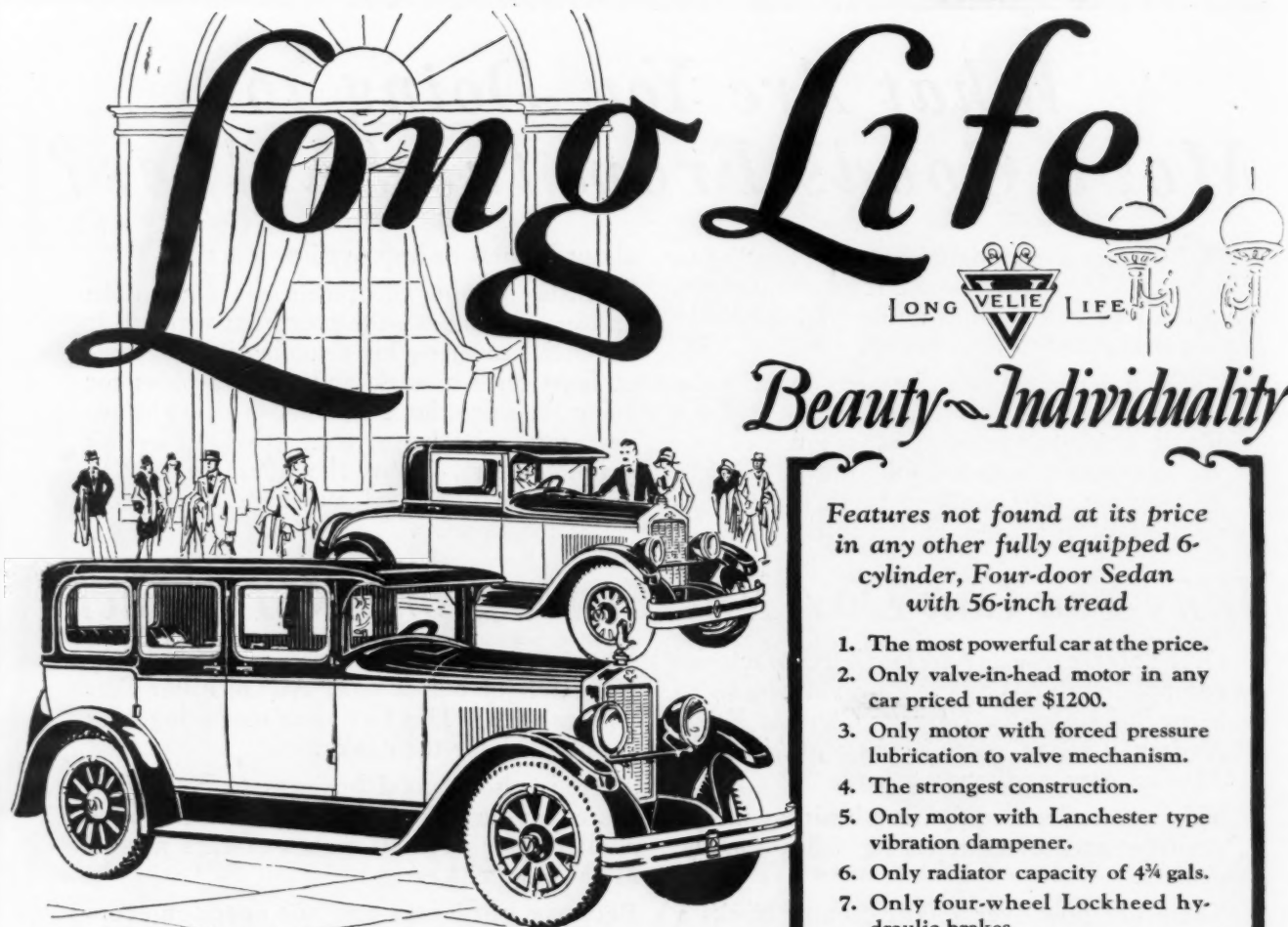
Point out to Ford owners that the AC Speedometer tells them how fast they are going and how far they have gone and enables them to check their oil, gas and tire mileage; also that the AC Speedometer is a full-size speedometer, registering speed, total and trip mileage—the same as used on AC Speedometer-equipped cars.

AC Spark Plug Company, FLINT, Michigan

AC-SPHINX
Birmingham
ENGLAND

Makers of AC Spark Plugs—AC Speedometers—AC Air
Cleaners—AC Oil Filters—AC Gasoline Strainers

AC-TITAN
Levallois-Perret
FRANCE



A Matchless Sales Opportunity

In the Velie Line you will find every costly car feature . . . yet small car cost. Comparison of Velie Units with competitive cars proves Velie better by a big degree . . . and reinforces the slogan "Long Life." Local newspaper advertising is on a more liberal basis than customary . . . extremely more so. The Velie organization, strongly financed and managed by its owners, will always be a dominant factor among quality car manufacturers.

A full line of automobiles on two chassis, price range \$1165 to \$1635. Low operating cost and freedom from dealer "service" is assured by exclusive features combined with over-strength construction throughout. Dealers anxious to build upon a solid foundation for the future will find the Velie Franchise invaluable.

Velie Sales Are Increasing from 47% to 101% Month After Month, Compared with 1926

VELIE MOTORS CORPORATION
Moline, Illinois

VELIE

DEALERS AND DISTRIBUTORS:

Never before has the Velie Franchise been so valuable. If your territory happens to be open, investigate

Features not found at its price
in any other fully equipped 6-
cylinder, Four-door Sedan
with 56-inch tread

1. The most powerful car at the price.
2. Only valve-in-head motor in any car priced under \$1200.
3. Only motor with forced pressure lubrication to valve mechanism.
4. The strongest construction.
5. Only motor with Lanchester type vibration dampener.
6. Only radiator capacity of 4¾ gals.
7. Only four-wheel Lockheed hydraulic brakes.
8. Only car with heat indicator on dash.
9. Only car with 182¾ inches of spring equipment.
10. Lowest cost—price and weight considered. Velie Sales Increasing from 47% to 101% month after month, compared to 1926.

The Hutto Kit *opens*

The way to
New and
Greater Profits



The Hutto Kit opens the Way to New and Greater Profits

The responsibility of the Hutto Engineering Company does not cease with the sale of its products. It is the policy of this company to give its patrons first aid by showing them how to increase their business and *profit from the daily grind.*

Therefore, the HUTTO KIT of merchandising ideas has been prepared for you, consisting of newspaper advertisements, letters and a series of direct by mail pieces, backing up the HUTTO PROCESS of refinishing cylinder bores, with a resultant increase in business for you.

*The HUTTO KIT will
be first aid in producing
a larger volume of business
—it is yours for the asking.*



HUTTO ENGINEERING COMPANY INC.

515 LYCASTE AVE. DETROIT

Profit From The Daily Grind



Features not found at its price
in any other fully equipped 6-
cylinder, Four-door Sedan
with 56-inch tread

1. The most powerful car at the price.
2. Only valve-in-head motor in any car priced under \$1200.
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The **Hutto Kit** *opens*

The way to
New and
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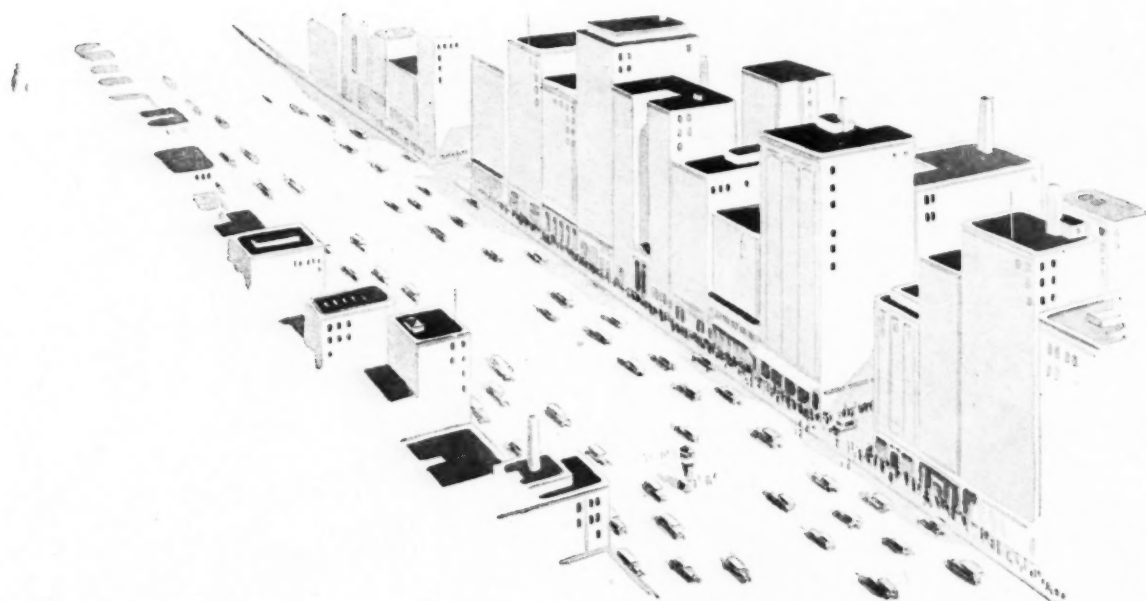
*The HUTTO KIT will
be first aid in producing
a larger volume of business
—it is yours for the asking.*



HUTTO ENGINEERING COMPANY INC.

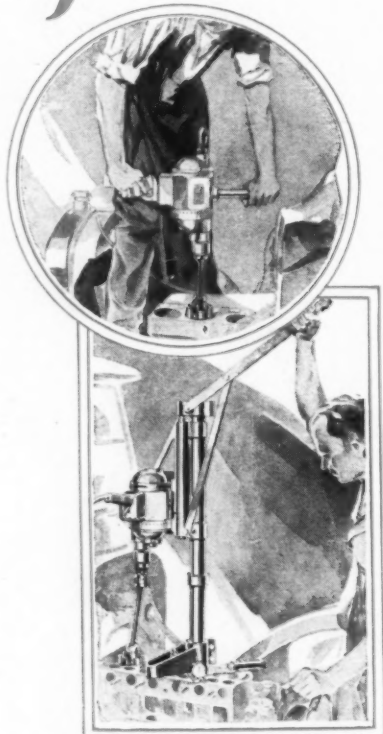
515 LYCASTE AVE. DETROIT

Profit From The Daily Grind



Profit from the Daily Grind

Grinding over the highways and by-ways are many cars that need regrounding—bring them to your door by using the HUTTO PROCESS.



When cylinder bores are reground by the HUTTO PROCESS you are sure to have satisfied customers, for you can guarantee the job to be just as accurate, straight, round and velvet smooth as attained by the manufacturers who use the HUTTO PROCESS in production.

Ask your Jobber to show you the Black Box. It will help to build your business.

Be the leading service shop in your locality.

Write for booklet ~ "How to
Get Profit From the Daily Grind"

Thousands of service stations use the Hutto Twin Three Grinder. The Hutto Process of Cylinder regrounding is used and endorsed by 85% of the manufacturers.

HUTTO ENGINEERING COMPANY INC.

515 Lycaste Avenue

Detroit, Michigan

Automobiles have improved but what about gasoline?

IT IS a far cry from the "horseless buggy" of yesterday to the automobile of today. But the first cars and the latest cars are alike in one fundamental respect: *both depend on gasoline for fuel.*

Gasoline is not a perfect fuel. It has always had one inherent fault. It explodes too quickly ("knocks") as temperature and compression increase.

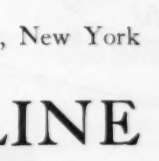
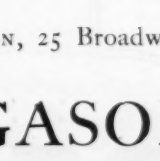
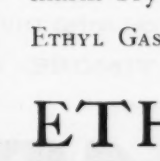
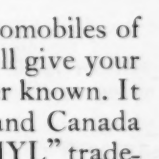
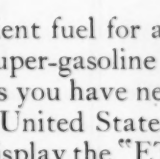
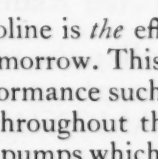
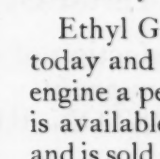
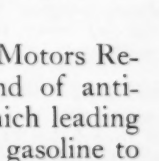
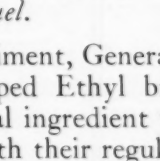
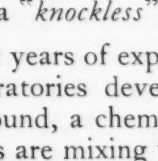
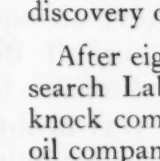
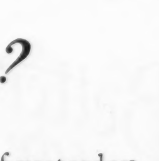
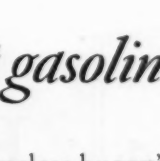
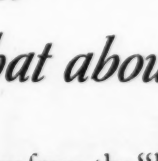
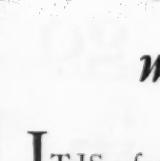
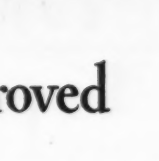
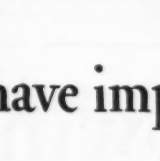
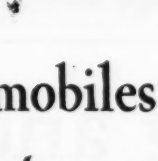
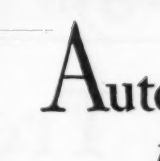
Carbon increases both temperature and compression beyond the point at which the present day automobile is designed to operate efficiently on regular gasoline. And the full efficiency of the modern motor car and its continued development have both depended upon the discovery of a "knockless" fuel.

After eight years of experiment, General Motors Research Laboratories developed Ethyl brand of anti-knock compound, a chemical ingredient which leading oil companies are mixing with their regular gasoline to form *Ethyl Gasoline*.

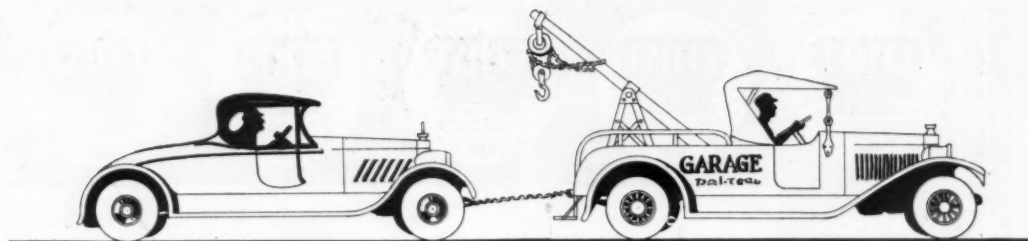
Ethyl Gasoline is *the* efficient fuel for automobiles of today and tomorrow. This super-gasoline will give your engine a performance such as you have never known. It is available throughout the United States and Canada and is sold at pumps which display the "ETHYL" trademark. Try it today.

ETHYL GASOLINE CORPORATION, 25 Broadway, New York

ETHYL GASOLINE



WHAT'S WRONG WITH
THIS PICTURE?



Towing and Trouble go

Hand in Hand!

It's NEVER Necessary
to Tow a Diamond Job

When Diamond Piston Rings are installed, the starter turns over the motor immediately. Perfect compression with a minimum of cylinder wall drag.

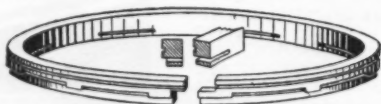
Diamond Piston Rings have uniform dimensions and exert an equal radial (outward) pressure in all directions, while others vary as much as four pounds per ring. This fact was brought to light and thoroughly proven by our specially constructed Radial Thrust Gauge.

Realize the satisfaction of a good job, well done, at a *greater profit* . . . INSTALL DIAMOND PISTON RINGS.

WARWOOD TOOL COMPANY
PISTON RING DIVISION
BALTIMORE, MD.

and a Better Oil Control Ring

Diamond Oil Control Rings have a combination of features which make them the last word in positive oil control.



1. *Undercut at Bottom:*

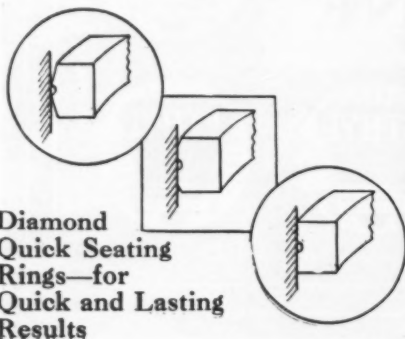
Provides a sharp scraping edge which curls the oil away from the cylinder wall.

2. *Radial Slots:*

Allow excess oil to pass thru the ring and drain thru holes in the bottom of the ring groove.

3. *Lubrication Groove:*

Located above the slots, provides all the oil required to lubricate properly the cylinder walls and prevent the motor pounding at high speeds.



Diamond
Quick Seating
Rings—for
Quick and Lasting
Results

DIAMOND

THEY MAKE GOOD WHERE
ALL OTHERS HAVE FAILED

The Balanced **W** *Piston Ring*

WIN \$200

Dress Your Window for

SHALER WEEK

June 24 - July 2

DURING Shaler Week over 5,500,000 copies of The Saturday Evening Post, Liberty and Country Gentleman will be telling the Shaler story—creating demand for the 5-Minute Vulcanizer. We want *you*—want *every* Shaler dealer—to get every dollar's worth of business he can.

To make it worth your while to put some *extra* thought and attention on your window trim, a window display contest has been arranged. This is a *different* contest—one in which *everybody* can get a prize. Prizes *and* profits, and you can't lose.

15 Cash Prizes

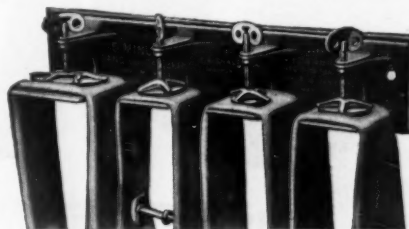
There are 15 Cash Prizes for the best windows.
\$200—\$100—\$50—and 12 awards of \$10.
Get into this and pick up some easy money.

Send in this coupon to be entered, and get your package of Shaler window trim material. Cards, set-ups, window stickers.

Saturday Evening Post Reprints

We will also send reprints of the big 2-page, 2-color Saturday Evening Post ad of June 25th. You know how *they* tie up our advertising to *your* store. MAIL THAT COUPON NOW!

The SHALER Company
1012 Fourth Street • Waupun, Wis.
World's Headquarters for Tire Repair Equipment



This shop model, 4-gang Tube Vulcanizer is sent FREE to every dealer not winning a cash prize who sends in an acceptable photo.

The Shaler Company, Waupun, Wisconsin

Please enter this store in the window display contest held Shaler Week. We understand window trim must be in by June 24 and remain there until July 2. Photo, 8 x 10 inches, to reach you by July 15.

Forward a package of Shaler Window Trim Material and Saturday Evening Post reprints at once.

M A.

A wonderful record of Griefless Performance

That's Why Dealers Who Sell Chansons
Are Satisfying Customers and Making Real Profits
No Sickening Grief—No Broken Straps—No Noise



THERE is nothing secret or mysterious about the wonderful record of griefless performance of Chanson Shock Absorbers. The basic patent principle and superior scientific construction of Chansons eliminate such grief as broken straps, broken springs, noise, adjustments, complicated fittings—and PRE-LOADING.

Any dealer, service station or garage that has had experience in selling shock absorbers will readily appreciate the importance of this statement of fact—knowing only too well that the grief that usually follows in the wake of shock absorber sales, sooner or later eats up the profit made on the original sale. Chansons eliminate all this grief. The dealer makes a real profit—a clear profit—on every sale. That's one of the reasons why alert dealers are switching to Chansons.

CHANSON Shock Absorbers

Chanson dealers know from experience that they can recommend Chansons to their regular customers with the comfortable feeling that they are doing them a real favor in equipping their cars with superior shock absorbers—that will give them the utmost in riding comfort, year after year, without any trouble whatsoever.

There are only three moving parts, all designed 600% over-size so that nothing can "shake loose"

or "wear loose" or require adjustment or make a noise. One size, packed with three sets of fittings, fit all cars, except Fords. No overstock of extra parts to be inventoried year after year.

Ask your jobber's salesman—and write us for a demonstration. An actual test will convince you of Chansons superiority more than all the advertisements we could write.

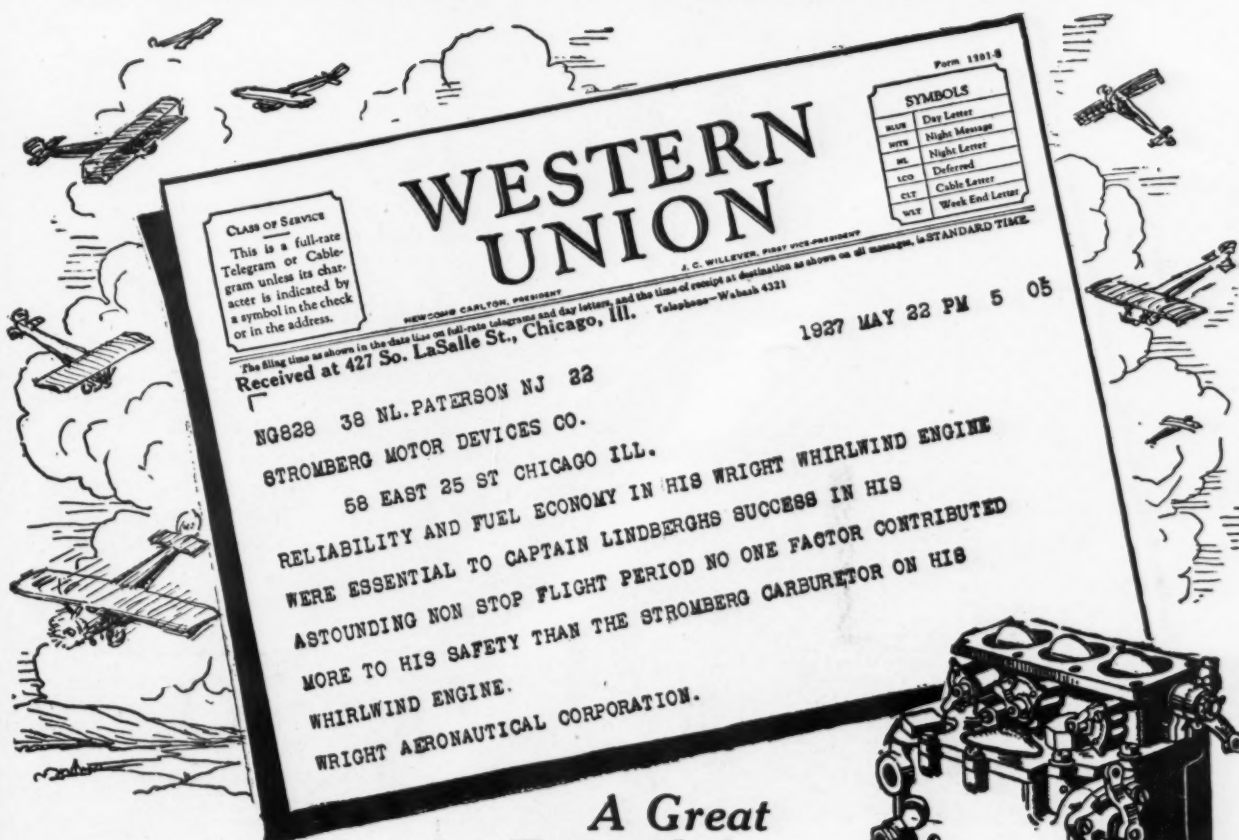
ILLINOIS IRON & BOLT CO.—CHANSON DIVISION
Dept. 618 (Est. 1864) Carpentersville, Ill.

LINDBERGH'S

Trans-Atlantic Flight Made With FAMOUS

STROMBERG

CARBURETOR



WESTERN UNION

Form 1301-B

SYMBOLS	
DAY	Day Letter
NITE	Night Message
NLT	Night Letter
DEF	Deferred
CAB	Cable Letter
WET	Week End Letter

Class of Service
This is a full-rate Telegram or Cablegram unless its character is indicated by a symbol in the check or in the address.

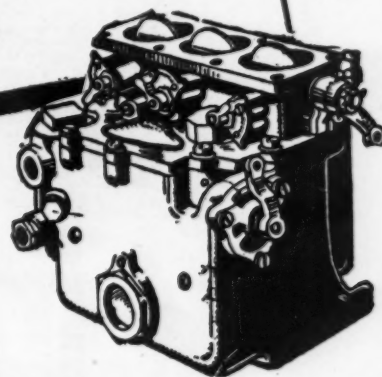
Received at 427 So. LaSalle St., Chicago, Ill.

1927 MAY 22 PM 5 05

NG828 38 NL.PATERSON NJ 22
STROMBERG MOTOR DEVICES CO.
58 EAST 25 ST CHICAGO ILL.

RELIABILITY AND FUEL ECONOMY IN HIS WRIGHT WHIRLWIND ENGINE WERE ESSENTIAL TO CAPTAIN LINDBERGH'S SUCCESS IN HIS ASTOUNDING NON STOP FLIGHT PERIOD NO ONE FACTOR CONTRIBUTED MORE TO HIS SAFETY THAN THE STROMBERG CARBURETOR ON HIS WHIRLWIND ENGINE.
WRIGHT AERONAUTICAL CORPORATION.

A Great Triumph for a Great Carburetor



Twenty years of experimenting, developing and building the best carburetor that skill and science could devise, were crowned with success when Capt. Lindbergh landed in Paris with his Ryan Plane equipped with a WRIGHT ENGINE and STROMBERG CARBURETOR.

Commander Byrd in his NORTH POLE FLIGHT, Chamberlain and D'Acosta in their 54-hour non-stop flight also used this marvelous carburetor. Practically all altitude, speed, economy, and endurance records on land, air and water, were made by STROMBERG EQUIPPED ENGINES.

The new Vis-a-Gas Model Stromberg for automobiles has all the excellent features of the aeroplane model. Write us for most interesting dealer's proposition.

STROMBERG MOTOR DEVICES CO., 58-68 East 25th Street, Chicago

Direct Factory Branches: 517 W. 57th St., New York City
1529 Laurel Ave., Minneapolis

1809 McGee St., Kansas City

760 Commonwealth Avenue, Boston
London, England, Chelsea, S. W. 10, Milman's Street and Cheyne Walk

84-86 Hancock Ave. W., Detroit

When You Sell *These*



You Sell POWER

—and that's just about the easiest thing to sell to a car owner.

After all, the chief reason why Thompson Valve sales for replacement have gone up so rapidly is because they really do back up their reputation.

They lead in original equipment because they make any engine a better engine. They lead in replacement because they make an old engine act like a new one.

Furthermore, we make it still easier for you.

The Thompson Triple Choice Selling Plan enables you to meet all comers. If you aren't already familiar with this, ask the Thompson distributor about it.

THOMPSON PRODUCTS, INCORPORATED
General Offices: Cleveland, Ohio, U. S. A. Factories: CLEVELAND and DETROIT

✓ *Don't forget that Thompson distributors also handle Thompson Bolts and Starting Cranks*

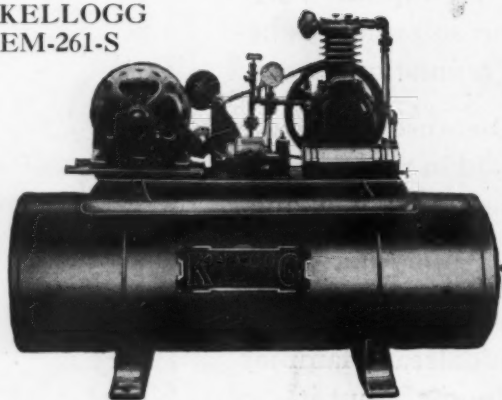
Thompson Valves

/KELLOGG/

COMPRESSORS

More Air Per Horsepower

KELLOGG
EM-261-S



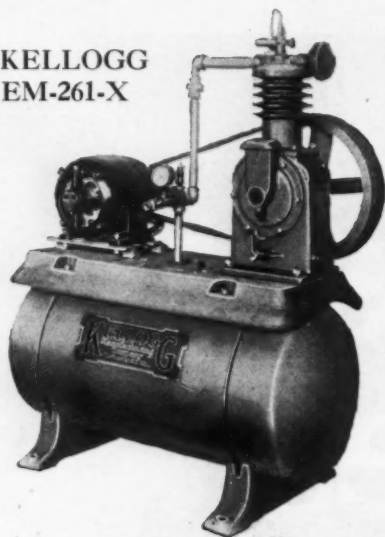
Specifications:

1½ horsepower motor
80 gallon tank
8 cubic feet of air
Self-cleaning check valve
Patented pump and splash
lubricating system
Honed cylinders
Air cleaner and muffler

Air for tire filling—air for engine cleaning—air for spray painting—require a compressor that can be depended upon for uninterrupted service.

The KELLOGG EM-261, like all KELLOGG compressors, is noted for pumping more air and less oil and furnishing more air per horsepower. That's why more garages are choosing it every day for general use.

KELLOGG
EM-261-X



Special for Spray
Painting

Install a Kellogg EM-261 and you will realize why

"It Pays to Buy a Kellogg"

Kellogg Mfg. Co.

ROCHESTER, N. Y.

Add a Lasting Thrill to any Motor



BOHNALITE

Bohn Products include Ring True Bearings—Bohnalite Castings, semi-permanent, permanent mold and sand, Nelson Bohnalite pistons; we also supply the government with replacement pistons and bearings for the Liberty engine.

THE LIGHT ALLOY PISTON WITH A STEEL BACKBONE



**The Backbone of
Steel or Strut**

Special alloy steel struts are cast in, to control expansion and maintain satisfactory clearances under all engine operating conditions. The struts are the backbone of piston endurance and long life.

*BOHNALITE, the alloy from which this piston is made, should never be confused with any other light alloy upon the market. Every Nelson Bohnalite Piston is heat-treated for uniformity, strength and hardness.

Often times, especially in the case of light alloy pistons, the fitting at the factory means but little, because of distortion of the metal in pistons when they are subjected to the heat of combustion.

Heat-treated Nelson ★ Bohnalite Pistons are not affected by the heat of combustion and their backbone of steel makes them stay put.

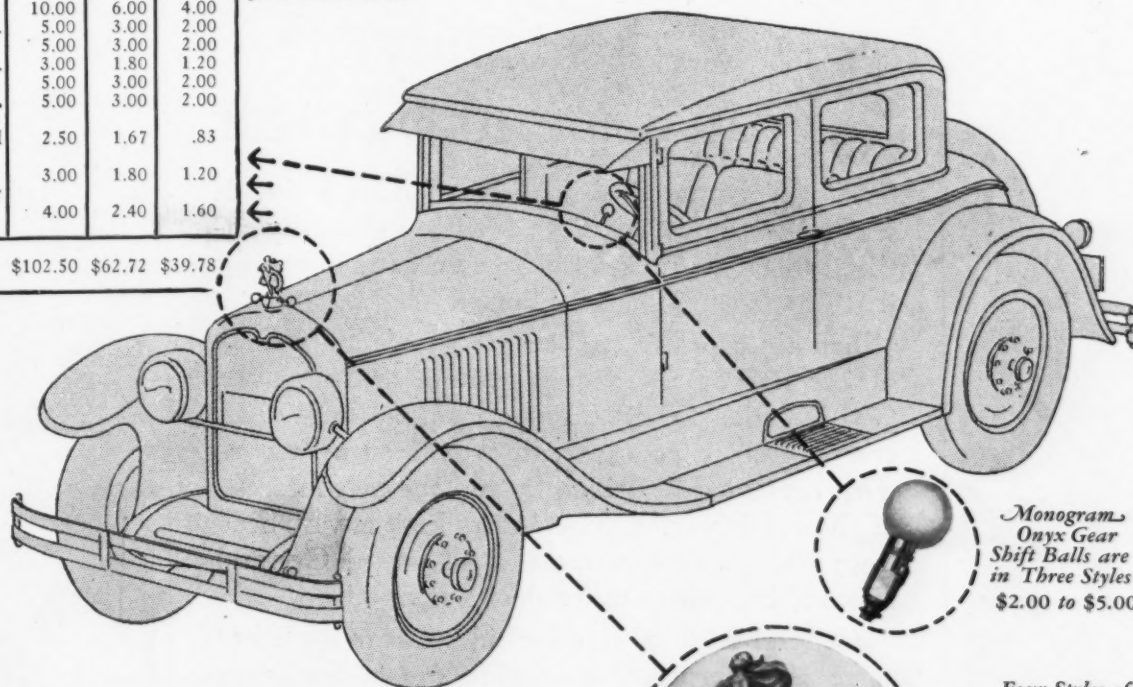
Nelson Bohnalite Pistons are already being used by manufacturers of cars, for which they claim unprecedented performance—a list of them will be gladly furnished upon request along with a booklet which further describes the design of this outstanding piston.

BOHN ALUMINUM & BRASS CORPORATION
EAST GRAND BOULEVARD, DETROIT

ACCESSORIES	LIST	COST	PROFIT
Bumpers . . .	\$ 25.00	\$15.00	\$10.00
Step Plate . . .	3.00	1.80	1.20
Tire and Tube . .	18.00	12.00	6.00
Tire Cover . . .	2.00	1.05	.95
Clock . . .	12.00	7.20	4.80
Spot Light . . .	10.00	6.00	4.00
Cigar Lighter . .	5.00	3.00	2.00
Heater . . .	5.00	3.00	2.00
Tire Lock . . .	3.00	1.80	1.20
Chains . . .	5.00	3.00	2.00
Moto Meter . . .	5.00	3.00	2.00
MONOGRAM Locking Gear Shift Ball	2.50	1.67	.83
MONOGRAM Ornament No. 3	3.00	1.80	1.20
MONOGRAM Junior Locking Cap	4.00	2.40	1.60
Average Totals	\$102.50	\$62.72	\$39.78

The figures and items to the left are average and show the car dealers' average profit to be made from accessories.

Watch for big direct mail campaign



Monogram Onyx Gear Shift Balls are in Three Styles \$2.00 to \$5.00

Four Styles of Caps and Five Styles of Radiator Ornaments

Ornaments: \$3.00 to \$7.50. Style above \$5.00. Caps: \$4.00 to \$15.00. Style of cap priced in chart is Jr. Wing or Jr. Reg.

OPPORTUNITY for Extra Profits for Car Dealers in MONOGRAM Accessories

MR. Car Dealer:—What will be your net profit, at the end of the year, after deducting your used car losses.

Your own National Automobile Dealers' Association tells you that accessories (dollar for dollar) will give you more than five times the profit that you can get from car sales.

See What These Figures Mean to You

Net profit per dollar on carsales—1 6/10% } Your Association figures.
 Net profit per dollar on accessories—11% }
 But You Can Make—26% if you buy from our jobbers.

If you do not know a MONOGRAM Jobber in your locality write us.

Every time you sell a new (or used) car without extra accessories you are taking good money out of your own pocket. MONOGRAM Radiator Caps, Radiator Ornaments and Onyx Gear Shift Balls insure you a much greater profit than 11% and help you put over many car sales.

Four radiator caps, three gear shift balls and five DeLuxe radiator ornaments give you a balanced line to choose from for any car or pocket book. Ask us for Monogram literature.

THE KINGSLEY-MILLER COMPANY, 600 West Jackson Boulevard, Chicago, Illinois

These DeLuxe Radiator Ornaments are in five styles



MONOGRAM Radiator Ornaments

These ornaments are for use with or without motometer

NOW this family can have its *own* car

This is a famous drawing by a famous artist. It was made some years ago. Today any family entitled to credit may have its own car and pay for it through the GMAC Plan.

When time payments became an accepted form of car purchase, General Motors instituted the GMAC Plan to make sure that the sale of General Motors cars on credit would be in accord with sound credit principles and the best interests of the car buyer. GMAC rates have always been low; and the last reduction has saved General Motors' customers more than \$12,000,000.

General Motors' line includes "a car for every purse and purpose," a suitable model for every income. And every sale under the GMAC Plan assures a transaction that will hold goodwill.

"A car for every purse and purpose"

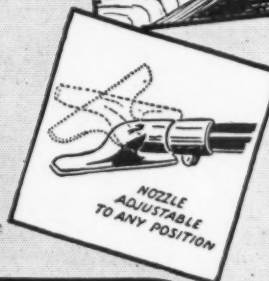
CHEVROLET • PONTIAC • OLDSMOBILE • OAKLAND
BUICK • LASSALLE • CADILLAC
GENERAL MOTORS TRUCKS • YELLOW CABS & COACHES
FRIGIDAIRE—The Electric Refrigerator



GENERAL



MOTORS



Port-o-Vac

—an added service that builds business

A carefully vacuum-cleaned car is a source of enjoyment to every motorist, and the garage or service station that renders this added service is assured of added goodwill and patronage.

PORT-O-VAC is built purposely for this service.

It is powered by a full-sized $\frac{1}{8}$ H. P. General Electric Motor, giving the same power as large household vacuum cleaners. Yet it is so light and perfectly bal-

anced that it is easily operated with one hand.

The telescoping tube extends to 32" in length, reaching the corners easily, and the flexible tube and brush (supplied free) makes every point accessible. The nozzle is completely universal, always fitting flush with the surface, regardless of the position of the cleaner.

PORT-O-VAC should be part of the regular equipment of every garage, car dealer, wash rack, and filling station. The price is \$31.67 net, less than 10c a day, to increase your service department profits. If your jobber can't supply you, write direct, giving his name, so shipment can be made promptly.



Johnson Hub Bearing Lubricator

One of the season's fastest selling items—sales more than dou-

bled this year. High pressure bearing lubrication in 2 minutes. Genuine Alemite fittings if desired. Packed in the new counter merchandiser.

Fords 70c—Chevrolet & Pontiac 75c
Fittings Extra



Johnson
MOTOR PRODUCTS CO.
308 NORTH SHELDON ST. CHICAGO

ELIMINATE THE NUISANCE

of Radiator Repairs!

Here, for the first time, is a radiator core that cannot be damaged by boiling or repeated freezing.

The STANDITALL RADIATOR Core will expand to take care of freezing, and, when thawed out, all parts *resume their normal position*. Visit our plant and see a radiator core that has been frozen solid and thawed out 32 times and is **UNDAMAGED**—as good as new.

The separators or "dummies" do not run all the way through the core. This insures *freer circulation* and a *wider distribution of the water*—a radiator that never clogs or leaks—will *last the entire lifetime of a car*.

There is a STANDITALL Radiator Core for every car built and complete radiators for Fords, Chevrolets, Dodges and Maxwells. Start now and **REPLACE** the core instead of trying to repair it. Your customers will gladly stand the slight extra expense.

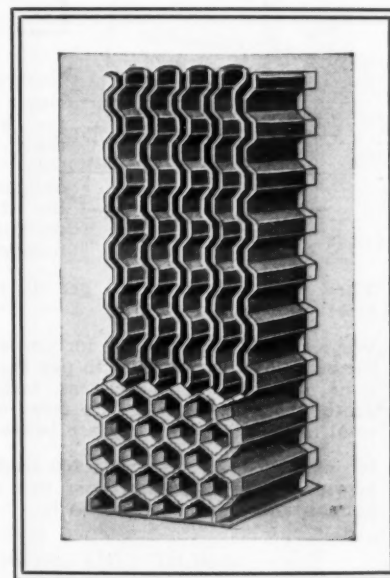
Your favorite jobber can supply you with STANDITALL Radiators and Cores. If he does not carry them at present, just send us his name and that will soon be remedied. Descriptive literature on request.

J. C. BLACK MFG. CO., Inc.

Factory and Executive Offices:

OIL CITY, PA.

STANDITALL
AUTO RADIATOR



1. Damageproof due to boiling.
2. Damageproof due to freezing—even freezing solid.
3. Old-fashioned dummies of ordinary cores practically eliminated.
4. Freer circulation makes for greater cooling ability.
5. Wider distribution of the water raises boiling point.
6. After freezing, when thawed out again, all parts resume normal position.
7. Built to last the life of a car.
8. Tested to 20 pounds air pressure, 5 times more than ordinary.
9. Made for all cars.

Get the Order
then
Get ALL the money!
If not from him~
from
us



An Oldsmobile
Dealer Says:

"As a sales stim-
ulant on sales it
has no equal."

Everybody wants a car.
But a great many folks
are buying so many
things "on time" that
they are timid about
obligating themselves
for the large amount
represented by an auto-
mobile.

They fear that they will get ill, and be unable to
meet their notes.

We KILL THAT FEAR for you and help you close
the order by guaranteeing to pay the purchaser's notes
if he is disabled thru sickness, accident or accidental
death sustained during the term of his notes. (A
total of \$70,000,000 assets are behind this guarantee.)

No strings to it! Nearly 5,000 dealers are using our
service. And it doesn't cost you a cent. Mail the
coupon and learn how we do it.

MAIL THIS COUPON

Date.....
W. S. MAYS & CO., Inc., 51 Maiden Lane, N. Y. C.
Send me forms and instructions for covering my time payment
sales with Purchasers Disability Insurance. To commence
.....
Dealer
Address
Cars Handled.....



51 MAIDEN LANE

NEW YORK CITY

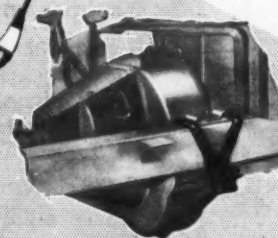
Over 300,000
Pioneer Engine Supports
Sold!

You, Too, Can Sell Them

You can sell hundreds of
Pioneer Supports in your
vicinity, when Ford owners
learn that it tightens chassis,
lessens vibration, eliminates
rattles, prevents broken
crankcase arms, sets per-
manently those already
broken; reduces oil leak-
age and cuts repair bills.

PIONEER ENGINE SUPPORT

Pioneer
advertising
in Country
Gentleman,
Farm Life and
Progressive
Farmer reaches
3,000,000 Ford
owners—your
prospects.



PIONEER TAKE-UPS



Eliminate Ford front wheel wobble.
Make steering easier; save wear on
front tires. Can always be adjusted
to the wear of the bushing. Easy to
sell at this price.

Pioneer Replacement Windows for Fords



Installed in 20 minutes. Simply con-
structed. Heavy, clear glass. Rich
black enamel frame. Makes a tight,
rattle-proof window. Made by one of the oldest estab-
lished replacement window manufacturers. Catalog
sent free.

Our dealer proposition is an attractive one that
will net good profits. Are you on our lists?

The Brewer-Titchener Corporation

Port Watson St.

Cortland, N. Y.

Copyright 1927, by The Brewer-Titchener Corp.



Sock—the Wheel is off!

HERE'S the end of wheel-pulling grief! Your chance to get a complete set of real wheel pullers at . . . Well, look at the low price! Only \$2.25 for four sizes that cover all cars. A neat wood, slide-cover box included. And Alvord-Polk makes them, so they are good.

You know how quickly, easily these pullers take wheels off. Just screw the puller on the axle thread, sock it with a hammer and the job is finished.

Buy from your jobber. Or, if he hasn't them, write direct. Alvord-Polk Tool Company, Millersburg, Pa.

ALVORD - POLK

Tools for Repair Shops

The Ratchet adds speed

Try this
"YANKEE"
way of
Driving
Screws



You just turn to and fro . . . easy like . . . without letting go of handle. A slick ratchet movement drives screw home. Right and Left Ratchet, and Rigid. Saves time and strength.

Ask your dealer to show you the "Yankee" Ratchet Screw-driver.

No. 10—With ratchet shifter moving lengthwise with tool. Eight sizes: 2 to 12-inch blades.

No. 11—Same as No. 10, except shifter moves across tool.

No. 15—With "Yankee" Thumb-turn on blade for starting wobbly screws with thumb and fore-finger. Six blade lengths, 2 to 8-inch. All blades, 3/16" diameter.

Some Other "Yankee" Tools

Plain Screw-drivers	Brake Lining Cutter
Spiral Screw-drivers	Automatic Feed Bench Drills
Ratchet Tap Wrenches	Automatic Feed Chain Drills
Ratchet Breast and Hand Drills	Vises with Removable Base



Dealers Everywhere Sell "Yankee" Tools

"Yankee" on the tool you buy means the utmost in quality, efficiency and durability.

Write for FREE "Yankee" Tool Book

This interesting little book is for all lovers of fine tools. It tells just what you want to know about all the famous "Yankee" Tools for making work easier and quicker.

NORTH BROS. MFG. Co., Philadelphia, U. S. A.

"YANKEE" TOOLS

Make Better Mechanics

WISE DEALERS: RAKE IN EXTRA PROFITS WE MAKE POSSIBLE

Bargains in New and Used Automobile Parts

An Enormous Stock—An Entire Building and Three Wrecking Yards

WRITE OR WIRE YOUR NEEDS TODAY!

Motors

Packard—6 cyl.
Cont.—J-4 Truck
Jordan—St. 8
Stutz—Dem. hd.
Oakland—25
Studebaker—Big 6-26
Ford—1926
Rickenbacker—6-1924
25% deposit required
on all orders.

Special Buick Dept.

Gears, Shafts, Axles, Trans- missions, Accessories

Timken Rear Axles

for all makes of
trucks and tour-
ing cars.

New Grey-Davis Standard S. A. E.
Generator \$9.95

Fits Essex Six, Paige, Continental
Motors and many other makes.

Bosch Magnetos

DU4-\$12.50
DU6-\$10. Other
prices on request.

NEW and USED

Radiators
Bodies
Tops
Tires
Tubes
Rims
Ignition
etc.

Orders Filled
Promptly

NEW AND USED

Balloon Tires and Tubes

If It's for an Automobile—We Have It!

State Auto Parts Corporation

2011-13-15 S. State Street

"Service and Quality"

Chicago, Illinois

This Window Display

SELLS CARS

DEPENDABLE USED CARS	
STUDEBAKER COACH	1925
PAIGE SEDAN	1927
BUICK TOURING	1927
WILLYS-KNIGHT SEDAN	1924
HUDSON BROUHAM	1925
CHEVROLET COUPE	\$175
JEWETT SEDAN	1921
CHEVROLET SUPERIOR	1925
OLDSMOBILE SEDAN	1926
FORD TOURING	\$135
FORD ROADSTER	
CADILLAC SEDAN	1915

\$SALESMAKERS\$

MODEL 56

The most effective flash-
ing window display ever
created and especially meet-
ing the needs of the used
car dealer. Put twelve cars
in your window where only
one or two could be shown
before.

Salesmaker 56 is a sales-
builder if there ever was
one. Thousands in use by
successful auto dealers all
over the country.

Write for Descriptive Literature and Prices

Standard Slide Corp.

209 West 48th St. New York

Sweeping Triumphantly Over All America

The New Perfected Piston Ring

A Piston Ring that **ACTUALLY CON-
TROLS OIL PUMPING!** Gives perfect
lubrication, greater oil mileage with no waste fuel.



The Osborne Oil Controller is taking the country by
storm! The greatest performer on the market today!
During the past two years while this Ring has been in
the experimental stage, it has replaced many types of
oil rings. In every case it has controlled oil pumping
100%. It is simple in construction and it is scientific
in its operation—not merely talking points but
PERFORMANCE COUNTS! Dealers—Write or
Wire for Details and Discounts.

OSBORNE OIL CONTROLLER

220 Oak Grove Street

Minneapolis, Minnesota

Every size in stock, including oversizes



ASSORTMENT No. 2-A

A Spring for Every Need When You Need It

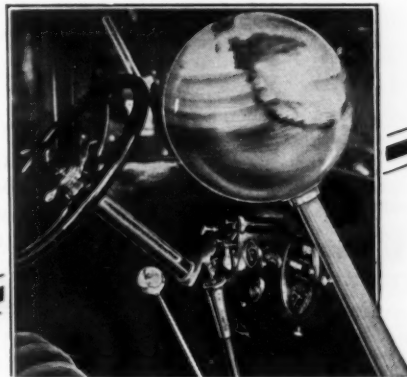
Customer waiting—job all but finished—all but one little spring. Here's when you need a Peck's Spring Assortment on your shelf. Peck's are arranged in three assortments—two containing expansion and compression springs; the third, all expansion springs. Selected in a variety of types and sizes to fit into most auto repair necessities. List price \$1.50, \$3.00 and \$5.00.

If your jobber doesn't carry them write us, mentioning his name.

THE PECK SPRING COMPANY
Plainville, Conn.

PECK'S SPRING
ASSORTMENTS

Genuine Onyx is In Demand



Big Profits for Dealers Selling YA-VA-PAI Gear Shift Balls

Their instant appeal to pride of ownership results in quick sales. Stock turns over fast. Manufactured with standard bushings and furnished with reducers to fit all cars. \$2 in the U. S. A.

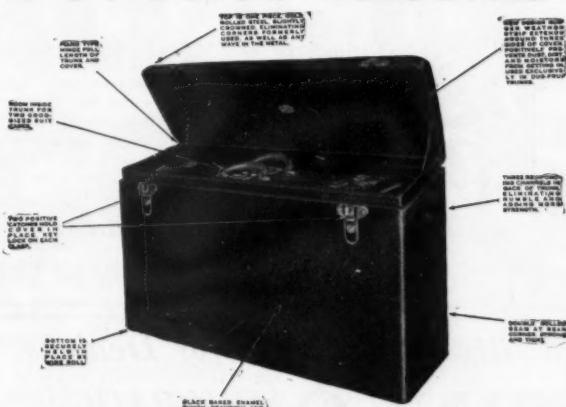
Ask your jobber, or get in touch
with us, giving us his name.

YAVAPAI ONYX MINING CORP.
Automotive Division

Dyersville,

Iowa

Manufacturers Specify DUS-PRUF TRUNKS



Our latest models include those for the 1927 Hudson-Essex line and are selling fast.

DUS-PRUF METAL TRUNKS combine beauty, durability, and utility. They are growing in popularity and leading manufacturers are specifying All Metal Trunks.

INCREASE YOUR PROFITS

All Metal Trunks are in big demand right now. This is the touring season. Write today for special dealer proposition.

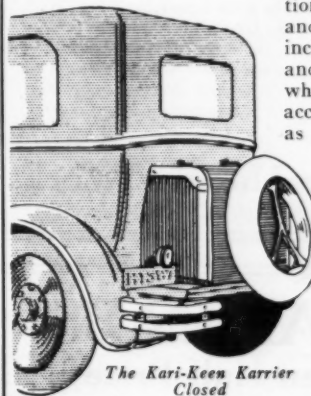
Dus-Pruf Metal Trunk Co.

414 W. Jefferson Avenue

Detroit

Automobile Dealers!

Increase your profits 2 to 5% on new cars with this fast selling automobile accessory. Adds 8½ square feet of loading space to the car. Lacquer finished, nickel trimmings, all steel construction, a size for every make and model of car. Equipment includes nickel bumperettes and canvas cover for carrier when open. The carrier and accessories installed as quickly as a pair of bumpers.



The Kari-Keen Karrier
Closed

Install them on new cars and pay salesmen's commissions. The Kari-Keen Karrier will sell on sight. The only carrier of its type in the industry. Write now for an attractive proposition to any of the distributors listed or direct to the

Kari-Keen Mfg. Co.

Dept. MA

Sioux City, Iowa

Kari-Keen
KARRIER



The Same Karrier Open

The Kari-Keen Co.
334 N. First Street
Minneapolis

2027 Fifth Avenue
Seattle, Wash.

311-15 N. Medina Street
San Antonio, Tex.

20,000 Pounds Pressure! Makes Chassis Lubrication Pay

Quick
Convenient

Twenty million cars need chassis lubrication every 500 miles. You can get your share of this business with a TEAPOT DOME OILER. You can do it quickly and thoroughly, win satisfied customers — and make more profits than you ever dreamed possible.



Clean
Economical

Mechanics everywhere are enthusiastic about TEAPOT DOME. Conveniently portable, easy to operate, positive in results, clean, simple, durable. Puts an end to removing bolts for cleaning.

Send for full information and name of nearest distributor.

Teapot Dome Oiler Co.
Drawer 79
Watsonstown
Penna.

MADE ESPECIALLY FOR GARAGE USE

No. 70 "ALWAYS RELIABLE" BRAZIER



PATENTED
1 GALLON
GASOLINE—
KEROSENE

A practical, durable and economical article.

The "ALWAYS RELIABLE" furnaces and torches are made in all sizes and grades. Ask for catalog.

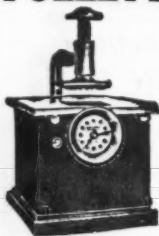
Most jobbers stock. Others will gladly order

Stocks in Newark, N. J., New York City, Chicago and San Francisco.
Offices in Newark, N. J., New York City, Chicago, Fort Worth, Denver, Helena, Mont., San Francisco, Los Angeles, Seattle and St. Thomas, Ont.

OTTO BERNZ CO., Inc.
Newark, N. J.

FOLLETT'S NEW MODEL TIME STAMP

accounts for every labor minute



Prints the year, month, day, hour, minute, A.M. or P.M. at the exact moment the plunger is pressed—like this, for example:

NOV 19 1920 4 31 PM

Tells when a job is started—and when it is finished. There can be no dispute over the time charge.

Absolutely automatic — except for winding. Every machine guaranteed.

Learn the interesting details from our descriptive data.

Follett Time Recording Co., 217 High Street, Newark, N.J.
"Established Since 1904"

The most successful
merchandisers keep
at it every week - -

in

MOTOR AGE



DOLLARS FOR YOU!

There are dollars awaiting you in the auto glass repair business. With a Lange Glass Edger you can handle a tidy volume of windshield and body glass repair work. Owners of Lange machines tell us they paid for their edgers in a short time out of their profits.

Henry G. Lange Machine Works
166 NORTH MAY STREET, CHICAGO

The Harry Alter Company



Originators of Minute - Man Service

A unique Tire, Accessory, Radio and Electrical Supply institution. There is nothing else just like it; nothing that offers as great merchandising resources and as wide experience and prestige. We fill an average of 950 orders daily, and save dealers money on every order! Our catalog is a guide to more profitable business.

Lower-Than-Wholesale Prices, to Dealers Only
18th and Michigan Chicago

NEW TAXICABS at Less Than Half Price

Just purchased the entire output of new 1927

WILLYS-KNIGHT TAXICABS

which we are offering for a short while at \$1,395. Completely equipped, formerly sold at \$2,895.

SCHANE & MURPHY, INC.
1804 Broadway New York City

Big Opportunity for Dealers

SINKO AUTOMATIC CIGAR LIGHTERS

Sell Because They Last!

Absolutely FOOL PROOF and guaranteed for the life of any car. They stand up in service and don't come back with complaints. Two models—clamp-on or through dash. Replace heating unit with dash light bulb for emergency trouble light when needed. These lighters sell. Write.

LIST PRICE \$3.50

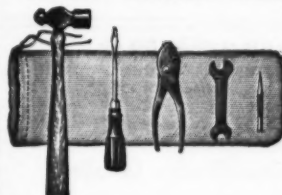
SINKO TOOL
& MFG. CO.

357-359 Crawford Ave.
CHICAGO, ILL.



Our SAMPLE CASE

THIS TOOL KIT HELPS TO MOVE THOSE USED CARS



1 Screw Driver, 4" Blade.
1 Ball Pein Hammer.
1 6" Pliers.
1 No. 25 double end wrench.
1 Punch.
Complete in draw-string bag.
No. 156.

Price 75c \$8.40
doz.

If your jobber can't supply
you, write direct.

CHICAGO TOOL & KIT MFG. CO.
156 Whiting St. Chicago

SIMPLEX Piston Rings

Supersede all other methods of rebuilding motors with-
out resizing cylinders and pistons—

No Oil Pumping, No Piston Slap
No Compression Loss

10,000 Mile Guarantee

backed up by Simplex Distributor with stock in your
community

Send for details of this short cut scientific method of recondition-
ing ALL cylinders, no matter how worn, tapered, out of round
or heat distorted.

THE SIMPLEX PISTON RING CO.

of America, Inc.

1971 East 66th St., Cleveland, Ohio

A Big Seller with Good Profits



Attractively decorated counter dis-
play boxes containing ten clamps of
ten different sizes help you sell

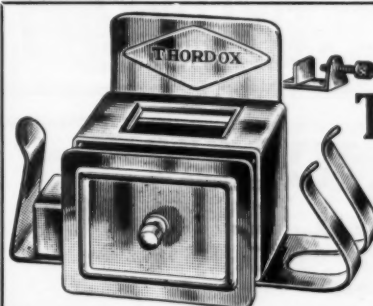
IDEAL HOSE CLAMPS

"Lindbergh's Spirit of St. Louis
uses exclusively IDEAL HOSE
CLAMPS"

Order through your jobber or
direct from us

IDEAL CLAMP MFG. CO., Inc.
200 Bradford St. Brooklyn, New York

No. 100



The THORDOX Clamp on Ash Receiver

One of the biggest sell-
ers in a fast-selling class.

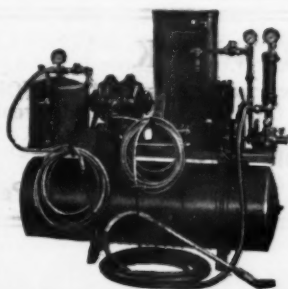
In addition to ash re-
ceptacle, it includes holders for a box of matches and pack of
cigarettes. Made of Non-rust THOROLITH, highly nickel
plated. Will not rust or rattle. And the list is only 75c. Write.

THE THORDOX MANUFACTURING CO.
410-412 N. Hermitage Ave. Chicago, Ill.

ALL-in-ONE IGNITION COILS

A NEW AND BETTER COIL
FOR LESS MONEY
It Will Pay You To Write **ONCE**
For Our Proposition at
C.E. NIEHOFF & CO.-230 W. SUPERIOR ST.-CHICAGO

LIPMAN Spray Mist Car Washer



Cleans car thoroughly—quickly
—inside and out, including
motor, transmission, etc. Uses
straight air on interior and for
drying; spray mist—NOT HIGH
WATER PRESSURE—on ex-
terior; kerosene spray for grease
encrusted parts. Absolutely
guaranteed not to injure any
car finish. Furnishes air for
shop tools, tire service, strip-
ping off old paint and applying
new.

Complete details, prices, etc.,
gladly supplied on request.

LIPMAN PUMP WORKS
2306 Eleventh St., Rockford, Ill.

They'll Tell You It's Best—But Try It Yourself



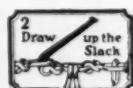
Rubyfluid

COMBINATION
SOLDERING AND TINNING FLUX

THE RUBY CHEMICAL CO.

68-70 McDowell Street

Columbus, Ohio



IT used to be a lot of trouble to put on chains—
until the Blue Boy Fastener on Dreadnaught
tire chains made them easy to put on and easy
to take off.

THE COLUMBUS MCKINNON CHAIN COMPANY
General Sales Office: Columbus, Ohio. Plants: Columbus, Ohio;
Tonawanda, N. Y. In Canada: McKinnon Columbus
Chain, Ltd., St. Catharines, Ontario

DREADNAUGHT
TIRE CHAINS
For Balloon, Cord and Truck Tires



Pat. Pending

Orrville Spring Governors

Make Smooth-Running Profits

Among the foremost popular sellers for easier riding. Simple in operation and easy to install. Check the rebound and control the springs against "galloping". Ask for illustrated literature and discounts worth while.

ORRVILLE SPRING GOVERNOR CO., INC.
500 Brant Bldg. Canton, Ohio



Branches in:
New York
Chicago
Philadelphia
Boston
San Francisco

BUNTING PHOSPHOR BRONZE BUSHING BEARINGS

Put Bunting Quality into all Replacements

The Bunting Brass & Bronze Co., Toledo, O.



NO RAD RUST

In WINTER—Reduces anti-freeze evaporation 75%.

In SUMMER—Prevents all trouble resulting from overheated engine by keeping cooling system CLEAN. Get details and discounts.

No Rad Rust Corp.

415 N. Water St. Lancaster, Pa.



BEAUTIFUL—Quick Sellers—Easily Installed

The Eaton Bumper & Spring Service Co., Cleveland, O.

HOT WATER HEAT FROM THE MOTOR

Warms car but leaves air clean and pure. Remains warm long after engine stops. Lasts for years. Never out of order. Only 2 models to carry. 75 minutes to install.

Write for full information.

MOT-ACS

The Only
HOT WATER HEATER
for AUTOMOBILES

MOT-ACS, Inc., Dept. A
551 W. 42nd St., N. Y. C.



TRANSMISSIONS



CONTROL SETS

CLUTCHES

ASK YOUR REPLACEMENT PARTS JOBBER

COVERT GEAR & MFG. CORP., Lockport, N. Y.

LINCOLN BALLOON SHOCK ABSORBERS

For All Cars—\$15 to \$40 Per Set of Four

LINCOLN PRODUCTS COMPANY, 2649 N. Kildare Ave., Chicago, Ill.

VITALIC

Fan Belts, Radiator Hose, Air Hose, Universal Joint Discs

"Tougher than Elephant Hide"

Sold through the Jobber Only.

Continental Rubber Works,

Erie, Pa.

The Jordan is different
—and always will be.



Jordan Motor Car Company, Inc.
Cleveland, Ohio



Here Is Something to Sell!

A piston ring, on the principle of a packing ring, that gives remarkable results in service, is used in thousands by automobile factory branches for replacement—and have a profit worth while. WRITE FOR DETAILS.

THE CORK-SEALED PISTON RING CORP.

2332 Michigan Avenue, Chicago

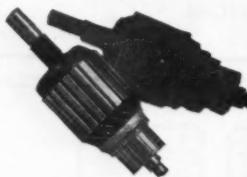
Factory: Denver, Colo.

Canadian Distributors: Purser, Bull & Co., Ltd.
Toronto, Canada.

HALL HONE \$35.

Spring and Solid Pressure in one Hone

at your
Jobber's



FREDERICKS Rewinds

New low prices: Rewinding or exchanging any two unit type of automobile generator or starter armature, \$2.50. Any type of Ford armature \$1.50. Special prices on Ford armatures in quantities.

H. M. FREDERICKS CO., Look Haven, Pa.



It's a Permanent Repair!

Have a can of CONNEAUT PLASTIC METALLIC PACKING in your garage and be ready for the fellow who says he can't keep his water-pump from leaking.

All sizes in one can. Stocked with your Jobber.

1 lb. can\$1.75 per lb.

5 lb. can1.60 per lb.

Manufactured by
THE CONNEAUT PACKING COMPANY
Conneaut Ohio

CELORON TIMING GEARS

GREASE-PROOF, OIL-PROOF, WATER-PROOF—
will never warp or swell

THE CELORON COMPANY, Bridgeport, Pa.
Division of Diamond State Fibre Co.



Fostoria Fenders

Repair Shops equipped with the Fostoria Fender Wall Chart can get immediate fender service from the nearby Fostoria Distributor. No waiting. More profit. Pleased customers. The Wall Chart is Free. Write for it today. Dept. A-6.

Fostoria Pressed Steel Co.
Fostoria Ohio

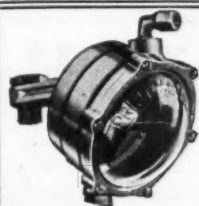
NEXT WEEK

—is the time to read next week's issue of MOTOR AGE, as you are reading this week's issue this week

MOTOR AGE

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Protects the Entire Gasoline System
It puts gas through a triple separation from its impurities by straining—by filtration—and in addition by gravity.
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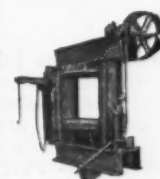
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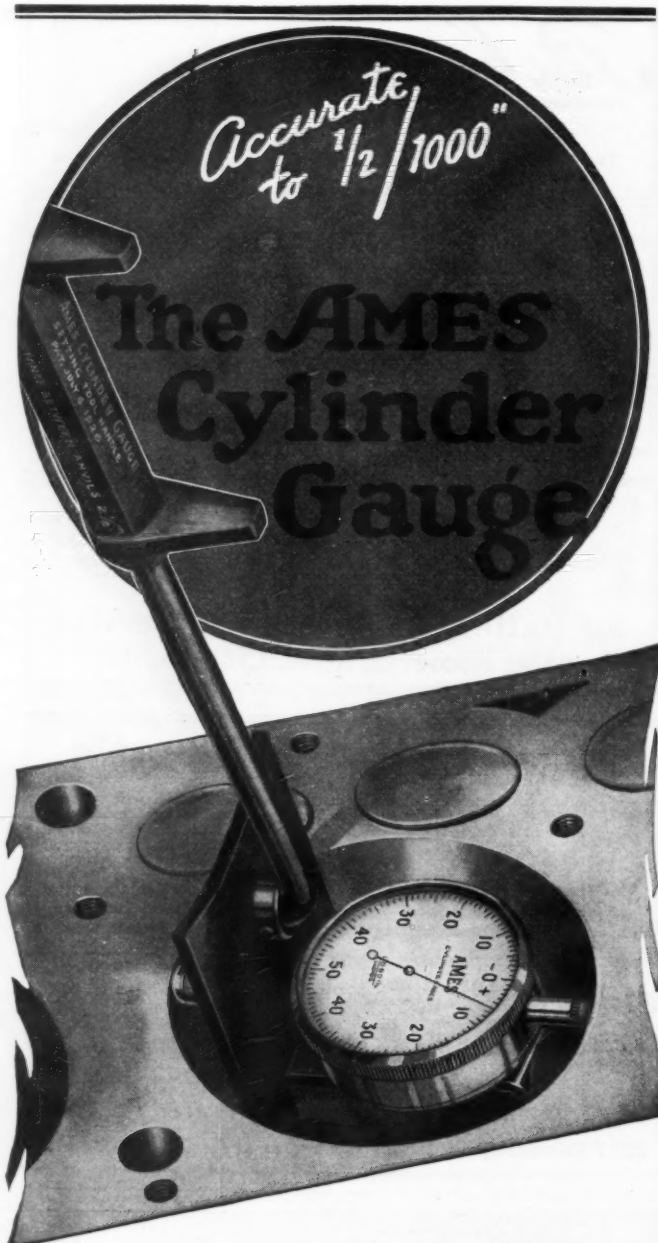
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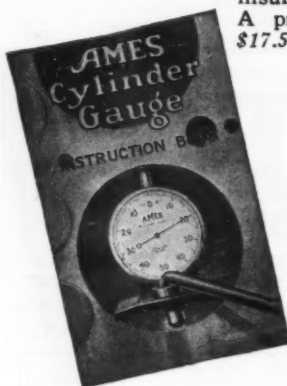
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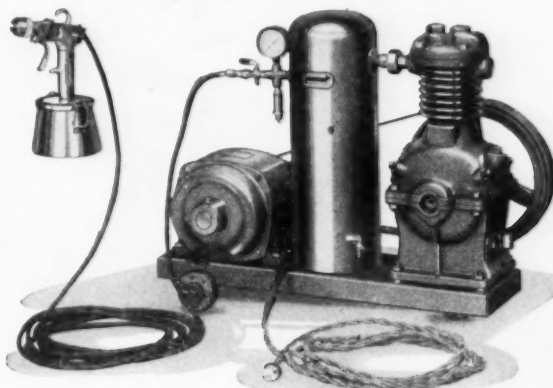
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Now—A Spray Paint- ing Outfit for Even the Smaller Dealer Only \$175

Painting the used car—increasing the sales value—at the least cost of labor and time by means of spray painting in your own shop, is a recognized advantage.



Handigrip Junior Complete Outfit

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Ask for Demonstration

Whether or not you are now in the market, you will be interested in knowing about this or larger Handigrip outfits. The Plummer-Huff Company positive guarantee affords you a demonstration of all Handigrip products in your own work without risk to you. Write for particulars. Kindly address Dept. M.

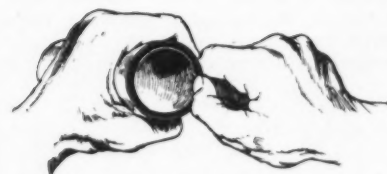
Plummer-Huff Company
Napoleon - - - Ohio



It's The *Inside* of Radiator Hose That's *Important* -

Where does radiator hose get the wear? *Inside*, you say—and *rightly!* It's the inside rubber lining that has to stand the contact with hot water and steam—and it's the rubber lining that is attacked and eaten away by anti-freeze mixtures all Winter. And when the inside rubber lining finally breaks, its edges curl inward and obstruct the water circulation. That means an overheated engine—particularly in this warm weather.

That's why it's more important than ever right now to sell your customers the hose with the *tougher rubber lining*—the Gates Vulco. More than 100,000 dealers are giving their customers this protection.



Your Nail— Tells the Tale

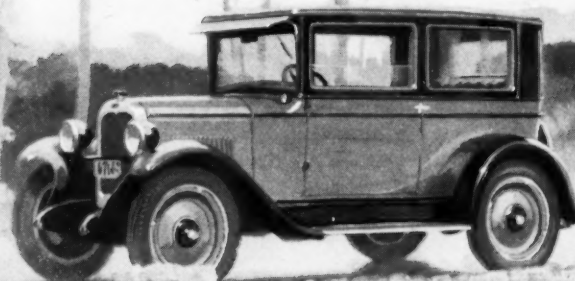
Try to chip the tough rubber lining of Gates Vulco Hose with your thumb nail—then make the same test with any other hose. You'll notice there is quite a difference. Radiator hose, you know, gets all its wear *inside*. That's why the tougher rubber lining of Gates Vulco Hose is so important.

GATES *Vulco* HOSE

Manufactured By The World's Largest Makers of Fan Belts



for Economical Transportation



A car for her, too!

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And the family car has such an infinite degree of usefulness! Neighborhood shopping, running downtown, taking the children to school, afternoon calls, meeting trains—and the many other trips that must be made to and from the house as a part of every day's work.

Chevrolet is so admirably suited to a woman's needs that it has become an overwhelming favorite as a family car—making every owner of a higher priced automobile a logical prospect for a Chevrolet. Consequently, Chevrolet dealers are enjoying a growing volume of "second car" business, in addition to their tremendous volume of regular sales to single car users.

This wide and constantly increasing market for Chevrolet has made the Chevrolet franchise one of the most attractive in the industry—offering profit opportunities without parallel.

CHEVROLET MOTOR COMPANY
Division of General Motors Corporation
DETROIT, MICHIGAN

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The Touring or Roadster - \$525

The Coupe - 625

The 4-Door Sedan - 695

The Sport Cabriolet 715

The Landau - 745

The Imperial Landau 780

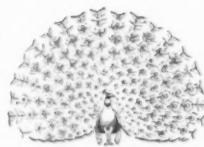
½-Ton Truck (Chassis Only) - 395

1-Ton Truck (Chassis Only) - 495

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They include the lowest
handling and financing
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Motor Wheel keeps perfect pace with the changing phases of automotive manufacture and selling—or anticipates, and sets the pace!

Progressiveness and genius make Motor Wheel by far the largest wheel builder in the world, with an ever-widening margin of leadership.

MOTOR WHEEL CORPORATION, LANSING, MICHIGAN

